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ISAAC ASIMOV'S SCIENCE FICTION® MAGAZINE

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EDITORIAL

WRITING FOR NOTHING



by Isaac Asimov

There are occasions when I am willing to have something of mine reprinted without charge—or even to write something without charge.

For instance, a couple of months ago, the Boston Museum of Science wrote to me to the effect that, owing to some sort of failure, they were left with a hole in their magazine and did I perhaps have two thousand words on "sound" that I had already written, and that I could let them reprint.

Well, I'm on the Board of Advisers (or something) of the museum, and when I lived in Boston, I used to take my children to the museum to their great delight and edification. I know, moreover, that the museum is an important scientific learning tool for young people. For all of these reasons, I feel a debt to the museum so, since I happened to have two thousand words of precisely what they wanted, I sent it off. I know the museum has little or no money to spare and the question of a fee simply did not arise.

Again, every once in a while, the *Humanist Magazine* asks me to write some sort of article for them. I happen to be president of the American Humanist Association,

and I feel it is my duty to oblige them in such things. Moreover, I know they have no money to pay for articles (to the contrary, I send them contributions periodically). So again, the question of a fee does not arise.

As one more example, I am, now and then, asked by some public school teacher, if he or she might have permission to Xerox, say, twenty copies of a story or essay of mine for the use of the students in the class. There is no fee in question, but under these circumstances, I always remember my duty to young people (after all, I have devoted much of my writing life to them). And then, lest I sound too noble for words, I also remember that some of the students may like what they read and go out hungering for a great deal more by me, which they will then be forced, by their unappeasable yearning, to buy.

In any case, I have never turned a teacher down under such circumstances though I always set two conditions—that the Xeroxes never be put on sale, and that they be used only for schoolwork.

However, writing for nothing is

not something I like to do and I choose my spots very carefully.

Once I received a request for an article of some sort by some magazine and the publisher was so anxious to assure me that the magazine in question was both respectable and presentable, that he sent me a couple of issues. They were indeed beautiful magazines, printed on thick, glossy paper with lots of colored illustrations. They were very impressive indeed.

However, there was no mention of any fee, so in my reply I said that before we could get into a real discussion of what I could write for him, I would like to know what level of payment he had in mind. He wrote back at once to tell me that it was not the magazine's policy to pay for such things.

I was much aggrieved at this, as you can well imagine, and I fired off another letter to him. I pointed out that he, as editor, was undoubtedly on salary, as was everybody on his staff; that the paper mills were paid for the paper; and the printer for the printing; and the artists and designers for their work. "Why," I asked, politely, "are writers so fortunate that they, and only they, are allowed to work for nothing?"

I really wanted to know, but I never got an answer.

This came to a head a couple of weeks ago, when I received a letter from some college teacher who wanted permission to reprint my story—"It's Such a Beautiful Day!"—which happens to be nine

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thousand words long. For a reprint of a story of that length, I usually expect a tidy sum.

However, her letter puzzled me. She said that it was going to be part of a book that would sell for thirty dollars or so, which certainly sounded as though it were a commercial venture. However, the first printing was to be eight hundred copies, which sounded as though it were *not* to be a commercial venture.

In my state of uncertainty, I wrote to her to ask exactly what she expected to do with the book, and, if she wanted to reprint my story without fee, would she explain why I should be willing to allow such a transaction. I was ready to let her have the story without fee if her cause seemed a good one, but I wanted to *know* that it was.

However, I got no direct answer to my question. Instead, I got an indignant letter telling me that she was shocked, *shocked*, at the tone of my answer. How dared I even hint at the possibility of charging her money? She went on to give me a list of other science fiction writers who had let her have stories without charge and without being so crass as to soil their lips with that dirty word. Finally, she let loose a few more bitter remarks about my impertinence and signed off.

My impulse was to answer in kind, but I do try to be polite, so I simply wrote a postcard saying that it must be wonderful to live

the kind of life where one is so easily shocked at someone who wants to be paid for his work. I had not really known, I explained, that I was dealing with Peter Pan in Neverland. I received no answer. (Why don't I get answers, I wonder?)

So now listen. You may wonder why I am so persnickety about a fee. I assure you it isn't the money. I am one of those fortunate writers (of whom there are very few) who writes endlessly, and who sells everything he writes, receiving generous sums in return. So I don't need the money.

But please, there is such a thing as setting a precedent.

Not every writer is as fortunate as I am. In fact, virtually none of them are. The average writer is a hard-working fellow who has to squeeze out material slowly and painfully, and with no assurance whatever that it will sell. If he does sell, it is rare indeed that he receives a sum commensurate with the work he puts into the product.

Even if he sells a novel, you can well imagine that unless he is one of the few blockbusters, he gets a small advance and, at best, only moderate sales. If he manages to have his novel made into a paperback, he is lucky if it remains on the shelves for a full month.

The fact is that, by and large, writers tend to be rather impoverished if they depend on their writing alone for an income. The average public is not aware of this because they hear only of the Ste-

phen Kings and the Arthur Clarkes, and know nothing at all of the myriads who don't make enough even to interest the I.R.S.

Well, then, one way of making a little more money is to sell reprint rights, anthology rights, and so on. The writer doesn't get much for this, generally, but it could help pay the rent or the butcher bill.

Why on Earth, then, should he ever be expected to donate his work for nothing?

Come, come, I hear you say. We're not talking about a starving wretch, we're talking about fat-cat Asimov. What's your complaint, Asimov?

My complaint, as I said earlier, is that I would set a precedent. Do you think that these terrible people who want something for nothing would stop at making use of a guilt trip? The Peter Pan faculty member who wanted "It's Such a Beautiful Day!" for nothing, had no hesitation in listing half a dozen prominent SF writers who had let her have their stories for nothing, thinking that I'd be shamed into doing the same. Of course, I wasn't, but if I had, then she would have added my name to her list and she would have used my name to browbeat poor Johnny Q. Pauper into donating his story—or else feeling like a dirty dog.

I won't do that. I won't let my name be used in that way.

Remember, too, that this magazine pays as generously as it can for stories, and as quickly as it can, too. Why, then, should Peter Pan think that she can get these tales for nothing? The least she can do is explain—instead of calling names.

—I see I have some room left, and I would like to make a point that isn't worth an entire editorial. In fact, I have mentioned this before, but perhaps it will do no harm to try again.

I am sick and tired of people who write for autographed photographs. Some write for three or four, each autographed differently, and with no return envelopes or postage supplied. Not one such request has ever been honored by me, and not one will ever be honored by me. The most I will do, if I have a stamped self-addressed envelope, is to return a note saying I will not honor the request. Otherwise, it is a silent dump into the wastebasket.

Why?—No mystery at all. I have no photos of myself to send out. What's more, I won't invest the money to get a thousand of them, each with a stamped signature, to do so. That's for show business people who have vacant faces for sale.

I? I sell the products of my brain. If someone wants an Asimov memento, forget my photo—buy a book. ●



5th ANNUAL READERS' AWARD RESULTS

Photo credit: Jane Jewell



Winners are, from left to right (front), James Patrick Kelly, Janet Kagan, Terry Bisson; (back), Robert Frazier, and Michael Whelan.

Once again the readers have spoken—and that means that it's time to tell you the winners of Isaac Asimov's *Science Fiction Magazine*'s Fifth Annual Readers' Award poll. The readers were the only judges for this particular award—no juries, no experts. This year's winners, and runners-up, were:

NOVELLA

1. **"Mr. Boy," James Patrick Kelly**
2. "Bwana," Mike Resnick
3. "Not Fade Away," R. Garcia y Robertson
4. "Skull City," Lucius Shepard
5. "The Hemingway Hoax," Joe W. Haldeman (tie)
5. "Trembling Earth," Allen Steele (tie)
6. "The Ragged Rock," Judith Moffett
7. "A Short, Sharp Shock," Kim Stanley Robinson
8. "Bones," Pat Murphy
9. "Lion Time in Timbuctoo," Robert Silverberg
10. "Elegy For Angels and Dogs," Walter Jon Williams

NOVELETTE

1. **"Getting the Bugs Out," Janet Kagan**
2. "The Manamouki," Mike Resnick
3. "The Flowering Inferno," Janet Kagan
4. "The Safe-Deposit Box," Greg Egan
5. "The Coon Rolled Down and Ruptured His Larinks. A Squeezed Novel by Mr. Skunk," Dafydd ab Hugh
6. "Toward Kilimanjaro," Ian McDonald
7. "The Caress," Greg Egan
8. "A Braver Thing," Charles Sheffield
9. "Health Care System," Charles Sheffield
10. "The Betrothal," Phillip C. Jennings

SHORT STORY

1. "Bears Discover Fire," Terry Bisson
2. "Touchdown," Nancy Kress
3. "3 RMS, Good View," Karen Haber
4. "Cibola," Connie Willis
5. "For No Reason," Patricia Anthony
6. "Space Aliens Saved My Marriage," Sharon N. Farber
7. "Kid Brother," Isaac Asimov
8. "Projects," Geoffrey A. Landis
9. "Bedside Conversations," Brian Stableford
10. "My Advice to the Civilized," John Barnes

BEST POEM

1. "A Dragon's Yuletide Shopping List," James Patrick Kelly & Robert Frazier
2. "The Dragon in the Garden," Sandra Lindow
3. "Cosmology: A User's Manual," John M. Ford (tie)
3. "Tintagel Morning: Song," Jane Yolen (tie)
4. "Astrology Column," Joe Haldeman (tie)
4. "For the Killed Astronauts," Tony Daniel (tie)
4. "A Missionary of the Mutant Rain Forest," Bruce Boston (tie)
5. "Curse of the Alien's Wife," Bruce Boston
6. "The Star: From and For Arthur C. Clarke," Joe Haldeman (tie)
6. "Reading Lesson," John Kessel (tie)
7. "Night," Roger Duicher
8. "Suddenly," Vivian Vande Velde
9. "Jekyll Reflects," Jessica Amanda Salmonson
10. "Eighteen Years Old, October Eleventh," Joe Haldeman (tie)
10. "The Cepheid Variable," Joe Haldeman (tie)

BEST INTERIOR ARTIST

1. Janet Aulisio
2. Laura Lakey
3. Gary Freeman
4. Terry Lee
5. Bob Walters
6. Laurie Harden
6. Pat Morrissey
8. A.C. Farley
9. Ron and Val Lakey Lindahn
10. Broeck Steadman

BEST COVER ARTIST

1. Michael Whelan
2. Gary Freeman
3. Tom Carty
4. Bob Walters
5. A.C. Farley
6. Michael Bates
7. Hisaki Yasuda
8. Wayne Barlowe
9. Bob Eggleton
10. Terry Lee

Both our Readers's Awards and *Analog's* Analytical Laboratory Awards were presented on April 27, 1991 at the Grand Hyatt Hotel in New York City, during a breakfast hosted by Publisher Bruce Chatterton. (Bruce failed to provide this year the earthquake he'd laid on for last year's award breakfast, in San Francisco, but nobody really seemed to miss it!) After breakfast, the awards were presented in a brief ceremony, each winner receiving a cash award and a certificate beautifully hand-lettered by Philadelphia artist Tess Kissinger. Of the *IAsfm* winners, James Patrick Kelly, Janet Kagan, Terry Bisson, Robert Frazier, and Michael Whelan were all on hand to receive their awards in person, only Janet Aulisio being unable to attend. Later on that night, everyone assembled at the Roosevelt Hotel for the annual Nebula Award Banquet, where, we're pleased to report, stories from *IAsfm*—Joe Haldeman's "The Hemingway Hoax" and Terry Bisson's "Bears Discover Fire"—won two out of three of the short fiction awards.

LETTERS

Photo Credit: Rohan de Silva



Bite him Pepsi!

Isaac—

[Re: "Two Bad Dogs" by Ronald Anthony Cross (September 1990)]

(1) Pixie a.k.a. Pepsi is suing for defamation on behalf of all breeds ≤ 1 kg.

(2) I'm mad because Cross has pre-empted my potential best-selling thriller about a were-chihuahua. . . . Grr. . . .

Arthur C. Clarke
Colombo, Sri Lanka

Come, come, Arthur, Were-Chihuahuas are very common in SF. Just because you don't read the stuff doesn't mean we don't have it.

—Isaac Asimov

Dear Sirs:

The subject of possibility of FTL travel is admittedly wearing thin, but so far no one seems to have stated what I see as the obvious.

First, in view of the medium in which we argue, we are all by definition aficionados of the science fiction genre. The enjoyment of our favorite pastime depends heavily on the existence, at least in fiction, of FTL travel. If we didn't each harbor a deep, personal fantasy concerning travel amongst the stars, we wouldn't be reading and writing this stuff to fulfill it.

Second, regardless of one's personal opinion on the possibility of

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— William C. Dietz,
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"Amazingly well-done."

— Bill Baldwin,
author of the *Helmsman* series



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I have always been a history buff, particularly military history. Thus, when I read novels like **YAMATO: A RAGE IN HEAVEN** or **THE WILD BLUE AND THE GRAY** my enjoyment is two-fold. In both cases the authors tell a great story, and given each his variant context, get their history

right. This is important to me, and I like to think to all readers as well.

It looks like there are a whole lot of people who agree with me because word of mouth and early reviews of both books have been exceptionally good.

When you see me around, let's continue our talk of conflicts, those in the past, and in the far future.

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FTL travel, it's a pretty safe bet that it won't occur within any of our lifetimes (except Dr. Asimov's, because in spite of what he says, I know HE will live forever!).

So it's crucial to our enjoyment to believe in FTL, and we're never going to see it anyway. Why don't we leave the feasibility studies to the professional scientists, and let the rest of us armchair recreational space jockeys have our fun zipping around amongst the stars. And how about it if all you science fiction writers continue to write all this wonderful stuff with just enough realism in it that I can continue to pretend my fantasies are most substantial than fairy tales about magic and wizards? I know what's real—I don't LIVE in a dream world, I just go there on vacation.

When I want to read hard science, I'll read hard science, not science fiction. But please, when I come home from a hard day in my particular version of the real world (quarterly reports and profits and losses), let me have my dreams. They don't cost much, and they keep me off the streets.

Sincerely,

Terry Hargraves
Houston, TX

Come, come, I do use faster-than-light travel in my science fiction. However, between using it as a merry convention, and giving the impression that I really believe it can be done in real life is an enormous gap. It is important to me to get my science straight and even when I use FTL travel I try to find pretend-ways of justifying it. If you want the kind of science fiction that

would be written by science-ignoramus I am ashamed of you.

—Isaac Asimov

Dear Doctor,

Having read your December 1990 editorial "Imagination" and the entire issue I am come to carp and cavil, in the friendliest possible way. Here is one long-time reader who assuredly does not confuse science fiction with fantasy. There are many magazines which publish the best available fantasy, whatever that may be. If I wanted one of those magazines I would buy one. I subscribe to *IAsfm* to get good SF. But, how much of it am I getting? Do you deny that you are filling in with fantasy?

Who can be happy with Baird Searles's conclusion, same issue, that there seem to be fewer writers who can, or want to, write good SF? If that is indeed your problem then an era of my life is closing. But why is this? Is it because, as you suggest, a working knowledge of science in general is necessary to such writing, and fewer people are interested in hard science? Or is it just that most modern students of science are not writers? Have you a ray of hope to offer?

To make a small amend . . . you do occasionally print good stories which are not readily classifiable as to genre. Bridget McKenna's "Evenings, Mornings, Afternoons" is an instance. Whatever kind of story it was I enjoyed it, and will gladly read as many more of same as you print. Now, Doctor . . . what's happened to Azazel?

Ed Drone
Suttons Bay, MI

Alas, if you study the paperback racks, you will note that fantasy à la Tolkien is infinitely popular, much more popular than straight science fiction. Why that should be, I cannot say, though I have some notions about it. However, straight science fiction is still written and, on occasion, it even does well. It does so in my case, for instance.

—Isaac Asimov

Dear Isaac,

A letter in the Mid-December *IAsfm* says that *Nightrider* by David Mace, 1985, was the first story to use Nemesis, Sol's hypothetical red dwarf companion. Just for the record, my novelette "Pride," published early that same year, did too. This isn't surprising. The idea itself had appeared in the scientific literature not long before, and writers were bound to seize upon it. If memory serves, James Blish anticipated the scientists themselves by having such a star in a story two or three decades earlier, though he did not say anything about its effect on the Oort cloud.

What is surprising is your remark that you might not have written your *Nemesis* had you known about Mace's novel. Not only are scientific notions in the public domain, so are conflicts between settlers in space and the stay-at-homes. Even Heinlein's *The Moon Is a Harsh Mistress* didn't exhaust that theme. What counts is what successive writers do with a motif. Though dreary repetition is far too frequent, freshness is always possible. But you know this, of course. I suspect you were just being modest.

"Kid Brother" is one crackling hell of a story. I'm nominating it for a Nebula.

Best,

Poul Anderson
Orinda, CA

Well, Poul, when I wrote my story "Lest We Remember," I certainly knew about the existence of Keyes's "Flowers For Algernon." I just worked like a dog to make my story as different from his as I could. I suppose I might as well have written Nemesis, even if I had read Nightrider, but then I might have had to work a lot harder to mask the similarities. Thank you for your kind word on "Kid Brother."

—Isaac Asimov

Dear Dr. Asimov,

I have been a long-time fan, reading everything (I can find) that you have written with avid interest and unfailing enjoyment. I've subscribed to your science fiction magazine since discovering it in late 1981.

I was quite distressed to read "Xenogenesis" by Harlan Ellison in the August 1990 issue. It was this article that finally tips the scales to action from procrastination (I've been thinking of writing to you for some time). I know there are people like those mentioned in the article out there and I truly am sorry. I wish I could protect you and the others, even Harlan, from having fans like that bash into you . . . but the most I can do is write and tell you what you already know . . . we're not all like that.

I read the Foundation Trilogy

some twenty-five years ago (or so), and have never looked back. Your writing is so natural and easy to read. My first love would be your science fiction. I was glad to hear there is a longer treatment of "Nightfall" coming out. I like Robert Silverberg's writing. The collaboration between the two of you is something I'm eagerly looking forward to reading. I also find the stories of the Black Widowers and your other mysteries delightful.

I discovered your non-fiction around the same time as your science fiction. You certainly have a knack for bringing science onto a level that's easy to understand and enjoyable to read without being a chemical engineer or physicist. I'm not positive, but I think your first non-fiction book for me was *The Genetic Code*, the most recent was *The History of Physics*, and there have been many many enjoyable pages read in between.

I can say without reservation, you are my favorite author. Keep up the good work! My only (slight) regret, is that I've never heard you speak in person. It's not outside the realm of possibility, since I do occasionally travel east. Do you still accept speaking engagements? How would I find out about dates, etc.?

In the meantime, I shall look forward to meeting you again, between the covers of your next book.

Gail Schultz

I have just come back from the Philadelphia Science Fiction Convention of November 1990, probably my last out-of-town convention. It was the first I attended since Harlan's article and I was a little worried. I needn't have been. The

convention had its full quota of eccentrics, but everyone treated me with complete kindness and consideration.

—Isaac Asimov

Dear Dr. Asimov;

Congratulations on publishing Allen Steele's "Trembling Earth." As a dinosaur fanatic I'm delighted with the steady rise in numbers of dinosaur stories. Allen Steele gave us one of the best; a tightly woven, exceptionally well-written novella. I could practically smell the Okefenokee. It's a little unfortunate that I figured out the mystery so early, but that's a minor quibble. Kudos also to Bob Walters who illustrated the tale so well. His illos of *Deinonychus*, featuring the shallower, *Velociraptor*-style skull, are in accordance with the latest scientific restorations (alas, *Deinonychus* may be re-named *Velociraptor antirrhopus*). His only mistake seemed to be on the sickle claws, which were too short, and lacked the profound curve of the real thing.

Having already launched into a technical critique, I should, in a spirit of friendliness, address a technical gaffe in Steele's yarn which I feel merits discussion. There was a scene where a *Deinonychus* rips the head off a cow, apparently with one bite. Historically, there has been a tendency in dinosaur fiction to invest the predators with almost supernatural power, and this scene is one example. In what I consider the two most notable books on dinosaurs, Robert Bakker's *The Dinosaur Heresies* and Gregory S. Paul's *Preda-*

tory Dinosaurs of the World, the paleontologists are in absolute accord that dinosaurs pursued a "slash and bleed" approach in dispatching their prey, using their serrated, recurved teeth to hook into flesh, then pulling backward through the action of powerful neck and jaw muscles. This would leave a long, shallow wound, although in the case of big predators, such as *T. rex*, Paul surmises the slash could be a yard long and a foot deep. The prey would then succumb to shock and blood loss. A variation of this approach was also practiced by the sabertoothed cats.

The upshot, of course, is that a *Deinonychus* would be incapable of ripping a cow's head off. Among other things, it lacked the type of teeth that could crush or puncture bone. The purpose of the scene was obviously to reinforce the sensation of the sickle-clawed dinosaurs' redoubtability as a predator, and intensify its horrific aspect. But in view of its infeasibility, I found it an unnecessarily melodramatic touch.

Nonetheless, I enjoyed the tale tremendously. It's certainly a great stride forward when compared to the evolutionary speculations in some of your past stories. I recall one where a guy was studying resurrected moas, describing it as research into "... one of nature's unsuccessful designs." That made my teeth grind together. The moa was very successful. Sure, it went extinct, but the same could be said for 99 percent of all species that ever lived on this planet and, eventually, for every species now existing. Gloomy, huh? Nor did the moa go extinct naturally; it was

hunted into oblivion by Maori tribesmen. It's not the moa's fault that it failed to evolve a defense for a once-unknown danger. It did what all animals do—it evolved to survive in a local environment, in this case, one lacking Maori hunters who wouldn't arrive for some 100,000 years. Precognition is not a factor in evolutionary success.

It is tales like *Trembling Earth*, presenting past species in a logical, favorable light, that may go a long way to helping us understand what Darwin meant by "Survival of the fittest."

Genocideally yerz;

Steve Duff
Seattle, WA

I am certainly not going to argue the matter of dinosaurs. I don't know enough. I agree with you that extinction is not the equivalent of biological failure, any more than individual death is. I feel that species extinction is part of the evolutionary process—but that does not mean that we ought to hasten the process through our own thoughtless activities. Death is part of life, but that doesn't mean that nuclear war is good.

—Isaac Asimov

Dr. Asimov,

In the December 1990 Letters column, L.C. Anderson expressed disappointment in your statement "I honestly believe [faster-than-light travel] is impossible." Anderson then used the outdated analogy that a bumblebee shouldn't be able to fly because of its wing size and said that anything imaginable is possible.

Your statement, meaning more precisely that you believe faster-than-light travel will *never* be possible, is your opinion. While I would hesitate to say that *anything* is possible, I would also hesitate to say that man will never travel faster than light.

Using a corrected version of Anderson's bumblebee analogy, at one time it was thought that the bumblebee shouldn't be able to fly. Now we know how the bumblebee flies. In the same way, we believe that superluminal flight (to borrow a term from your book, *Nemesis*) is impossible, but maybe some day we will see why it is possible after all.

What we know about science is probably only a raindrop in the ocean of what there really is to know, and so saying that superluminal flight will always be impossible could be a true statement. On the other hand, it might be equivalent to our ancestors saying that the world is flat, or that the bumblebee defies the laws of physics, or that there could be oceans on Venus.

In short, it is fine to say that you *believe* faster-than-light travel will never be possible but would you be willing to say that faster-than-light travel *will* never be possible?

By the way, your book *Nemesis*, which chronicles the discovery of "superluminal flight", is excellent. Just trying to clear the air,

Daryl Branson
Springfield, MO

Yes, the Earth was long thought to be flat but we now know it is spherical. Do you think there is any chance at all that we will some day

find out it is flat after all, that it has an edge, and that we can fall off that edge? Well, the speed-of-light limit falls into the same classification as the spherical nature of the Earth. The day you have faster-than-light travel is the day you will find the edge of the Earth and fall off it.

—Isaac Asimov

Dear Good Doctor,

This yapping and yelling about faster-than-light travel is semantics. I believe in someday achieving faster than light travel. I also believe in the impossibility of faster than light movement.

The bumblebee story is similar to denying that man could ever fly. Man can't fly as long as flying follows the flapping of birds and bugs. But change the definition to mean motion through the air, and now, yes, we fly.

Similarly, the relativity limit can't be gotten around any more than the second law of thermodynamics, but that's motion, not travel. Telephone calls carry sound much faster than the speed of sound without violating physical laws. My faith in the enormous amount of knowledge we have yet to learn says there is some way to get FTL travel out of STL motion. Future knowledge expands upon previous, it does not deny it.

Oh well, it's just sound and fury. There are enough quibblers out there to keep each other happy. How's your day shaping up? Your humble servant and exasperated reader,

Felix Morley Finch
Dutch Flat, CA

No, no. The faster-than-light limit does not apply only to motion. The speed of light in a vacuum is the absolute speed limit for the transfer of information as well as motion, and I'm afraid you'll have to accept that, whether you like it or not. I will continue to use FTL in my stories but that is only a convenient convention.

—Isaac Asimov

Dear Dr. Asimov,

It is undeniably true, as you have often said in various ways, that all the evidence we have suggests the impossibility of faster-than-light (FTL) travel. Apparently many people don't like to accept this, as it dashes their hopes for a future of "Galactic Empires." I, too, love reading fantasies of a galaxy that moves FTL, but that doesn't mean I need or even desire those fantasies to become reality. In scientific and technological matters it seems more productive to investigate the world with a clear, open mind, and see if you can determine what is actually occurring.

Nonetheless, it is often fruitful in science (and always fun in fiction) to speculate on the various implications of our present-day understanding. In that context I am intrigued by some of the findings of experimental physicists working

with "double particle" interferometry equipment. A source emits twinned photons traveling on opposite paths to separate interferometers; these photons are found to influence each other's behavior, though meters apart, apparently instantaneously. I'm sure you could explain it much better than this particular humanities student, but it seems that these experiments have indicated the existence of an effect which is FTL. Though this is certainly no challenge to the impossibility of FTL travel it does hold out the tantalizing prospect of FTL communication.

Picture a "Galactic Empire" of intelligent species sharing knowledge, art, and culture, instead of Battle Fleets and inter-species exploitation. Sounds like a better experience to me (even though "star wars" will always have their place in fantasy). Maybe part of the SETI project should be finding funding for the work of experimental quantum physicists!

Yours truly,

Mordechai Y. Shapiro
San Francisco, CA

I am not an expert on quantum weirdness. However, all comments on such weirdness by those who are experts emphasize that it does not violate the speed-of-light limit.

—Isaac Asimov

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A FLYING SAUCER WITH MINNESOTA PLATES

by Lawrence Watt-Evans

"A Flying Saucer with Minnesota Plates" is an amusing sequel to the author's delightful Hugo-award winning tale, "Why I Left Harry's All-Night Hamburgers" (*lAsfm*, July 1987). Mr. Watt-Evans recently edited *Newer York*, an anthology that has just been published by Roc Books. His next novel, *The Blood of a Dragon*, will be released by Del Rey in November.

art: Broeck Steadman



Harry nodded. "Yeah, I'll take these," he said.

The customer smiled in relief. "Thanks," he said. "And thanks for the burger." He started for the door.

"Any time," Harry said, waving.

He glanced out the window, trying to decide whether the eastern sky might be starting to lighten a little.

What the hell, he couldn't tell with the lights on, and he wasn't about to turn them off, even if he didn't have any customers in the place just then.

He probably wasn't going to get any customers for at least an hour, either; the late-night oddballs who were his best customers, who had provided most of his income for years, wouldn't be coming any more at this time of night, and it was still too early for the truckers catching an early breakfast. The day shift wouldn't be in until eight.

Harry wondered if any of the people who worked the other shifts for him had any idea what kept Harry's All-Night Hamburgers in business. They probably didn't.

He'd been in business for years before he figured out himself just what the story was on the late-night customers. He hadn't done anything to attract them, other than running a decent diner, serving good burgers, and never hassling anyone—but maybe that was enough, because they kept coming.

Harry's late-night customers were not your usual weirdos. Some of them, he was pretty sure, weren't even human.

As long as they paid for their meals, though, he didn't much care what they were.

The kid he'd had helping him on the night shift for awhile had explained it, but Harry had already doped most of it out for himself. The weirdos were from other dimensions. "Parallel worlds," some of them said; "alternate realities," according to others.

"Other dimensions" suited Harry. They were from places that were still Earth, but were *different*, in various ways. They had some way of traveling between worlds, and they came to Harry's because Harry never hassled anyone, because he'd take all sorts of weird trinkets in trade, and because there was a place like Harry's somewhere in this part of the West Virginia hills in millions upon millions of universes, so that they knew where to find him.

And they didn't want to be seen; that gave Harry's another advantage, being out in the woods in the middle of nowhere. Even isolated as the place was, they still only dared show up between midnight and dawn, and usually allowed an hour or so margin on either side.

That last guy had hung around later than most of them ever dared, but even so, Harry had an hour to kill.

Well, that hour would give him a chance to sweep up, maybe clean the grill; the grease was getting a bit thick.

He was out of practice looking after everything himself; he'd gotten spoiled having that kid working the graveyard shift with him for so long,

and now that the kid had lit out for wherever the hell he was—he'd sent postcards from Pittsburgh and New York, so far—it was taking awhile to get back into the swing of it.

Maybe, he thought, he should see about hiring another kid—but there was always the question of how a kid would handle the late-night crowd, and just because the last one had done okay, that didn't mean the next one would.

The bell over the door jingled as he was pushing the broom along behind the counter, and Harry looked up, startled.

It was his last customer, back and looking worried.

"Something wrong?" Harry asked.

He hoped it wasn't about the payment; those little coins he'd accepted looked like the platinum the guy had said they were, and that meant they were worth several times what the burger should have cost. He didn't particularly want to give any of them back, though; after all, he'd have to take them up to Pittsburgh to sell them, and he deserved something extra to cover the overhead.

"Yes," the man said. "It's my . . . my vehicle. You know anything about . . . um . . . motors?"

"Well, that depends," Harry said. "What sort of motor are we talking about here?"

The traveler opened his mouth, then closed it again.

"Um . . ." he said, "Maybe you had better come take a look."

Harry looked him over.

He looked ordinary enough, really. He was definitely human, and he was wearing pants and a shirt and shoes and a jacket, nothing particularly weird.

Of course, the shoes were cerise and appeared to be plastic, and the shirt couldn't seem to decide if it was white or silver, but the pants were ordinary black denim and the jacket was ordinary black vinyl—cut a little funny, maybe, but it could pass for European if you didn't know any better. The little display screen on the collar could pass for jewelry if you didn't look close.

The guy's head was shaved, but he didn't look like a punk, especially not with that worried look on his face.

Harry had seen a whole lot worse, in his late-night trade.

"Okay," Harry said, "I'll take a look."

He slipped off his apron and draped it across the counter, and the two men stepped outside into the cool of a late summer night.

Harry blinked as his eyes adjusted, and the customer pointed and said, "There."

He hadn't needed to point or say anything. His vehicle was the only one in the lot. Harry stared.

Harry sighed.

The vehicle was silvery, with a finish like brushed aluminum that reflected the light from Harry's signs in broad stripes of soft color. It was round, perhaps twenty feet in diameter, six feet high at the center, but

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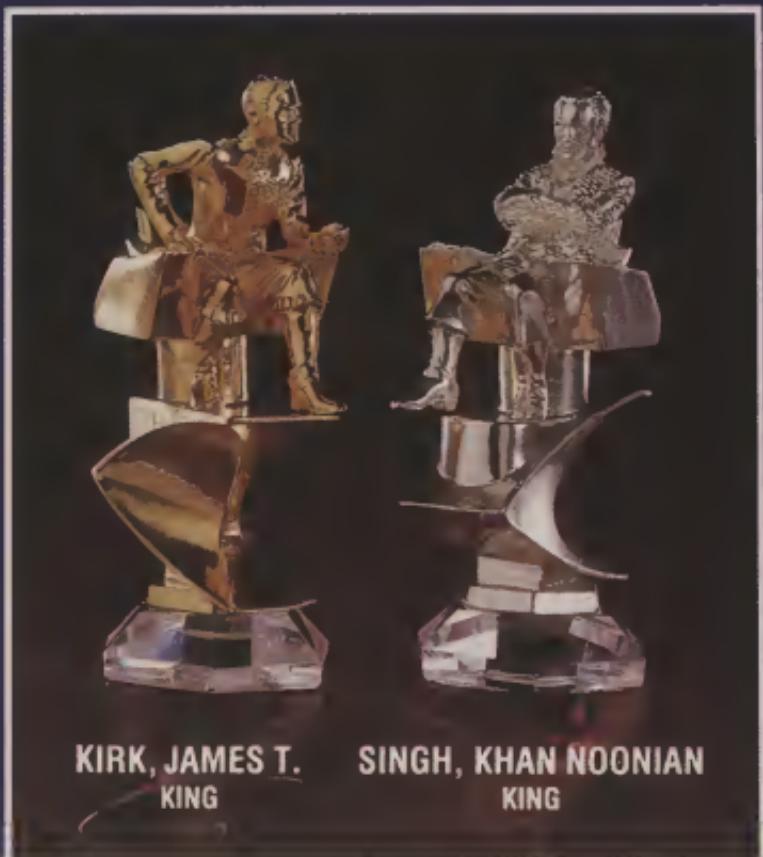
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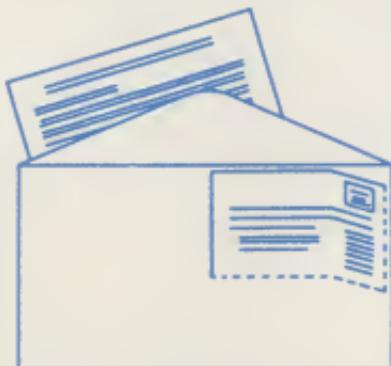
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curving gradually down to a sharp edge. A section of one side had lifted up to reveal a dark interior where various colored lights glowed dimly. There were no windows, portholes, or other visible openings, but a band of something milky ran around the lower disk and seemed to be glowing faintly.

It was, in short, a classic flying saucer.

"Oh, Lord," Harry said, "What's wrong with it?"

"I don't know," the customer said, worried.

Harry sighed again. "Well, let's have a look at it."

The customer led the way into the dim interior of the thing, and showed Harry where the access plate for the main drive was.

Harry went back inside, collected his tool box from the furnace room in back, and went to work.

He had never seen anything like the "motor" in this particular vehicle; about half the components looked familiar, but they went together in ways that made no sense at all.

And the other half—Harry didn't even like to look at the other half.

After about fifteen minutes he emerged from the engine compartment and shrugged.

"I'm sorry, buddy, but I can't fix it. I think that . . . that thing on the right might be bad—everything looks okay, no loose wires or hoses, but that thing's got this black gunk on it that doesn't look like it should be there."

The customer stared. "What will I *do*?" he wailed. He turned and looked desperately at Harry. "Is there anyone in your world who knows such machines?"

Harry considered that long and hard, and finally replied, "No."

"No? I am *stranded* here?"

Harry shrugged. "Maybe somebody'll come in who can fix it. We get all kinds here."

"But you said . . ."

"Yeah, well, I meant that *lives* here, there's nobody can fix it. But my place, here, I specialize in you guys, I figure you know that or you wouldn't be here. Tonight, tomorrow, sooner or later we'll get somebody in who can fix your gadget."

"Someone from another time-line, you mean?"

Harry shrugged again. "Whatever. I don't know who you guys are that come here; I just let you come and don't hassle anybody. It's none of my business if you're from time-lines, whatever they are, or from Schenectady, but I do get a lot of you weirdos late at night."

The customer frowned and looked over the controls.

"You are not very reassuring," he said.

"Not my job to be reassuring," Harry said. "My job is selling burgers. Now, would you mind getting this thing out of sight, before the sun comes up?"

The customer turned and blinked at him.

"How am I to do that?" he asked. "Without the primary driver, the vehicle cannot move at all."

Harry's eyebrows lowered.

"You serious? I thought you couldn't do whatever it is you guys do, but you mean it won't go *anywhere*?"

"It will not go anywhere," the other affirmed.

Harry looked out the door of the craft; the sky was definitely getting lighter. Early truckers might happen along almost any time now.

What would they do if they saw a flying saucer in his parking lot? This could be very bad for his daytime business. The late-night trade was important, but the daylight business didn't hurt any, either.

"Maybe we can shove it back into the woods?" he suggested, not very enthusiastically.

The customer shook his head. "I doubt it very much. The craft has a registered weight of seventeen hundred kilos."

"What's that in pounds?" Harry asked.

"Ah . . . about, perhaps, four thousand pounds?"

Harry sat down on a convenient jump-seat. "You're right," he said, "We can't shove it anywhere, unless it's got wheels. I didn't see any."

"There are none."

"Figures."

The two men sat, thinking.

"Can we not leave it here, until someone comes who can repair it?" the customer asked.

Harry glowered. "How the hell am I supposed to explain a goddamn *flying saucer* in my parking lot?"

The customer shrugged.

"I don't know," he said.

Outside, an engine growled. The first of Harry's daylight customers was arriving.

An idea struck him.

"Look," he said, "I gotta go, but here's what you do . . ."

The saucer sat in the lot through the morning and the afternoon, while Harry finished his shift and went home to bed, leaving the day shift in charge. It was still there at about 6:00 P.M. when the county sheriff pulled in and saw it.

He got out of his car and looked the saucer over from every side. The door was closed, and the exterior was virtually seamless. He had no way of knowing that its driver was asleep inside.

Painted on one side, in big red letters, was the legend, "Harry's hamburgers—they're out of this world!"

He smiled and went inside.

Twenty minutes later Harry came out of the back room, yawning, and poured himself a cup of coffee. The evening crew, consisting of Bill the cook and Sherry the waitress, paid no attention to him; they knew, from long experience, that he wouldn't be fit company until he had had his coffee.

The sheriff knew it, too, but between bites of hamburger he said, "Cute gimmick, Harry, that saucer out front."

"Thanks, Sheriff," Harry said, looking up from his cup.

"Is it permanent?"

"Nah, I don't think so," Harry said sleepily. "Takes up a lot of space. Thought I'd try it, though, see if it pulled in any customers."

The sheriff nodded, and took another bite.

"Uh . . . why d'you ask?" Harry inquired uneasily.

The sheriff shrugged and finished chewing.

"Well," he said, "I figured it wasn't there for good when I saw the Minnesota plates. If you keep it there more than a couple of months, you'll want to take those off."

"Oh, yeah," Harry said weakly.

He hadn't noticed the license plates.

Three days later, just after dawn, a trucker pushed open the door.

"Hey, Harry," he called, "What happened to your flying saucer?"

"Got rid of it," Harry said, pulling a breakfast menu out from under the counter. "Wasn't doing any good."

"No? I thought it was a cute idea," the trucker said, settling onto a stool.

Harry just shrugged.

"So, Harry," the trucker asked, "Where'd it go?"

Harry remembered the weird shimmer as the saucer had vanished, several hours before. He remembered all the snatches of conversation he'd overheard, all those years, about parallel realities and alternate worlds, places where history was different, where *everything* was different. He remembered all the strange coins and bizarre gadgets he had accepted in payment, thousands of them by now. He thought of all the stories he could tell this man about what he had seen, in this very place, late at night.

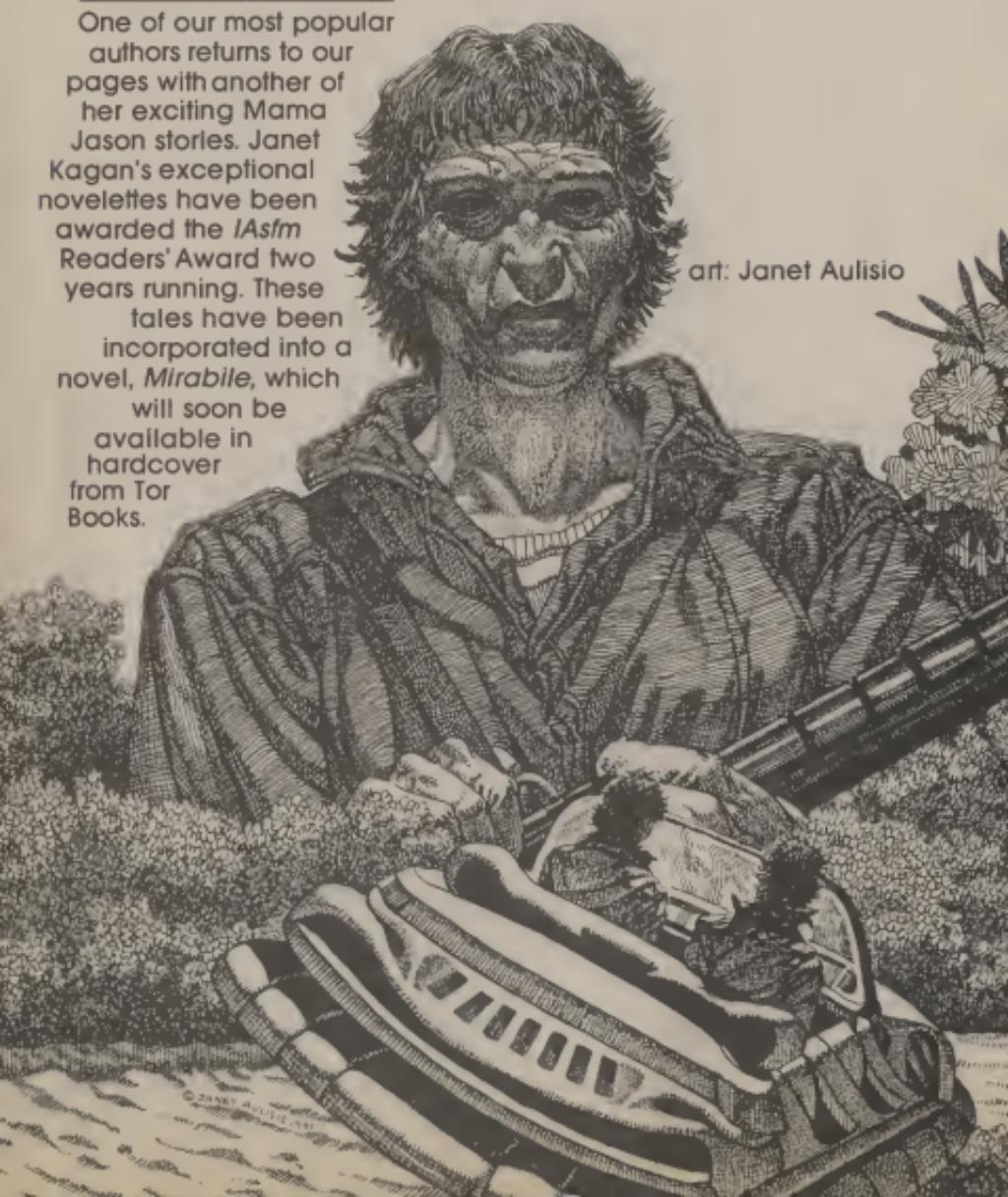
"Minnesota," he said, as he handed over the menu. ●

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One of our most popular authors returns to our pages with another of her exciting Mama Jason stories. Janet Kagan's exceptional novelettes have been awarded the *IASfm* Readers' Award two years running. These tales have been incorporated into a novel, *Mirabile*, which will soon be available in hardcover from Tor Books.

art: Janet Auliso



FRANKENSWINE

by Janet Kagan



The message board lit red, something it doesn't often do these days. "Susan," I yelled, "Pack your gear!" Her turn to handle the emergency—good use for all that excess sixteen-year-old energy. I punched accept and the screen lit up with the even fiercer energy of her younger sister Ilanith.

"Mama Jason," Ilanith said and there was enough relief on her face that I knew this one was bad. "Elly says come quick—a Dragon's Tooth tried to chew up Jen."

I know what my face did, because Ilanith added hastily, "She's okay! And Noisy's out there with a gun now, but you should *see*, Mama Jason. It's *nasty*! Jen was out—"

She meant to tell me the whole story but I cut her off. "I'm on my way. You can tell me about it when I get there." Much as I hate to disappoint a kid with a story to tell, I wanted to *be* there, even if Leo *was* after it with a gun. I snatched up my pack, my persuader, and was grabbing an extra box of shells for it, all the time bellowing for Mike to hold the fort while I was gone.

Susan, pack in hand and face set stubborn, said, "You're not going without me."

"You're right there," I said. "You drive." Want to get somewhere fast, let Susan drive—and close your eyes for the sake of your nerves. "Mike!" I bellowed again, but he was right behind me. "Dragon's Tooth at Loch Moose," I said, "Hurt Jen."

"And you want me to stay here? Annie, you damn well better call me the minute you know anything or I'll—" Luckily Mike's not truly inventive when it comes to revenge but I got the general idea.

Remembering how I'd cut off Ilanith, I said, "Call Ilanith, tell her we're on our way and get the story from her. Then get it from Jen." Jen deserved a chance at the telling too—her story, after all. That wasn't enough for Mike, from the scowl. "You take me for a damn fool?" I said. "Hear them out—if you decide we'll need the rest of the team, bring 'em. Just make sure there's somebody here in case something *else* comes up."

There *was* a time when something else *always* came up—he knew that as well as I did. That simmered him down long enough for us to make a dash for the hover and get the hell on our way.

I waited till we hit the river—smooth hovering even at the speed Susan was pushing—and got to business. Dumped the rock salt out of my persuader and reloaded for bear. Elly Raiser Roget is not easily ruffled (somebody who raises kids for a living better not be) and when she says, "Come quick," then the trouble is real and big and likely not the sort that's settled by a load of rock salt in its ass.

Susan slowed the hover—well, let up on it just long enough to pass me her shotgun safely—then gunned it again twice as hard. The trees on either side of the river fused into one long green smear. Susan kept her stare straight ahead.

Can't think when I've ever seen that kid's face grim but it was now.

No surprise—Elly raised her. Anything messes with the kids growing up at Loch Moose Lodge, she takes it personally, just the way I do.

"Leo's there," I said. Which was the only reason I wasn't twitching. Leonov Jason Denness—light of my life—could handle just about anything. He'd built his first reputation as Leonov *Opener* Denness, meaning he scouted whole new territories solo and opened them for colonization. Then he'd retired out to Loch Moose to make bells and earned the second reputation of being able to outshoot any kid in Elly's family (hence the "Noisy"). That's where I'd met him—and he promptly unretired to help us chase down Dragon's Teeth.

"Yeah," said Susan, "But you never know what's gonna happen with Dragon's Teeth."

"The way you're driving, we'll find out soon enough," I said.

She snarled, "Want me to slow down?"

"Nope," I said.

I shouldn't have been surprised at the snarl—I do it often enough myself that I set a rotten example—but I was, because it wasn't at me. Something in the snarl told me Susan was blaming herself, which made no sense at all.

Didn't get the chance to pry an explanation out of her, though. I'd barely finished reloading her gun when she swung left, up over the riverbank, to a tricky shortcut straight across country. No way I was gonna distract her when she held my life in her hands like that.

At times like these my grudge against that gaggle of geneticists back on Earth gets large and hairy and begins to resemble the worst of the Dragon's Teeth. Their intentions were fine—they wanted to make sure we couldn't lose a species we might need. So they found a way to build redundancy right into the genes of everything (except the humans) they sent along on the expedition. Hidden somewhere in the Mirabilian chicken's genes is the coding for wild turkey. Change the environmental conditions and mama hen's eggs hatch turkeys. Change the EC again and mama hen's eggs hatch owlets. And the owlet's eggs hatch newts. Nice idea, if you don't think about it too much—which they didn't, as far as I can make out.

Not thinking about it, they forgot that while the chicken genes were mixing with chicken genes, the encrypted owlet gene might be mixing with an encrypted newt gene . . . and what hatched out of mama hen's egg next time might be the resultant chimera—part owl, part newt. Sure enough, we got "nowlts" in quantity and some of the early jasons got two years' worth of headaches trying to work their way back to just plain chicken.

Most Dragon's Teeth aren't viable, which is the only break we get. Either that gaggle back on Earth didn't think to tell us how to turn off the encrypted genes or they didn't know themselves or maybe that was in the chunk of ships' files that we lost en route to Mirabile. (Think with five ships and a computer each that couldn't happen? Think again—the

design flaw in the computer was redundant too.) So you see what I mean about large and hairy grudges. . . .

My grudge was probably shedding all over Susan—she was still snarling as she pulled the hover altogether too close to Loch Moose Lodge and dropped it to the ground with enough thump to crumple its skirt. I got out, both persuaders in hand, and headed straight for the front porch of the lodge.

Susan caught up with me at the bottom step and grabbed for her shotgun. I've picked up enough mother's radar from Elly that I didn't let go. "First, we get the story from Elly," I said.

"But, Mama Jason—suppose Noisy needs help?"

"Noisy can hold his own until we find out what we're dealing with." That didn't satisfy her, judging from the twist she was giving the persuader to wrench it away from me, so I said, "Since when did you take charge of this team? Leo's doing his part, you do yours—and the first order of business is information. I need some and you're holding up the show."

The twist untwisted on the spot. I let her have the gun and the two of us went into the lodge. The lobby was milling with people, kids and adults as well. I pushed into the likeliest-looking knot and found Jen, Elly, and Doc Agbabian dead center. Jen had a bandaged leg but didn't otherwise look too much the worse for wear. She brightened all over when she saw me. "Mama Jason! Wait till you see it! It's an *ugly sucker!*"

"Thought I told you not to mess with ugly suckers," I said. I jabbed a finger in the direction of her leg. "Did you bite it first or did you bite it back?"

She made a face at me. "Neither," she said, defensively.

I nodded. "Okay, kiddo. Lemme see." I dropped to one knee, pried at the bandage for a glimpse of the wound itself.

Elly slapped my hand away. "Doc Agbabian just put that on—you leave it alone, Annie." Her smile of relief took the sting out of the command.

"What kind of wound?"

I'd addressed nobody in particular, but Elly shoved Agbabian at me. He held his fingers some three inches apart and said, "Two opposing slash marks. If there'd only been one I'd have taken it for a knife wound—but broader. She's lucky it missed the tendon. It was just a matter of gluing her back together."

I could feel my shoulders relax. "Okay, then. Tell me what happened, Jen—everything!"

She didn't need asking twice. She launched. . . . "Mabob and I were out picking blueberries. You know where we pick blueberries, don't you?"

I nodded and felt my shoulders tense up all over again. Mabob—that's short for "thingamabob"—is sort of a pet of Leo's. Except for size and except for the scales, he looks a lot like the parrot you see in ships' files—except that being Mirabilan, he's emphatically *not* a bird. He is, just as emphatically, a member of the family.

"Hold up," I said. "Where's Mabob? Did he get hurt too?"

Jen said quickly, "He's fine—he's helping Noisy stalk the Dragon's Tooth. Lemme tell ya what he did, okay?"

"Go."

"So we were picking blueberries, only Mabob was eating more than I could pick, and we found this hole in the ground." Jen held her hands to describe a six-inch round. "Big hole. I never saw anything lived in a hole that big. So Mabob wanted to look in the hole. . . ."

Well, I've seen Mabob poke his beak down ratholes often enough I'd have believed it, if Jen hadn't ducked her head at just that point in her tale. Sounded to me like poor Mabob was going to take the rap for this one. I raised an eyebrow at her, but I didn't say anything.

Jen looked up at Elly suddenly. "It wasn't Mabob who wanted to look," she said. "It was me. I thought I was being careful."

She looked at me again. "I didn't get very close at all, that's the thing. Maybe as close as Susan is to me"—about three feet, that made it—"so not too close."

I nodded. "I'd have thought that safe myself. So what happened?"

Her face furrowed. "It made another hole—the Dragon's Tooth, I mean. It came right up out of the ground next to me and it grabbed my leg and it hurt something awful and I screamed and then Mabob pecked it right in the eye! And the Dragon's Tooth let go and we ran away!"

Then she took a breath—which she must have needed after all that—and leaned back in the chair, waiting for my reaction.

I gave her the proper one—I whistled. Then I said, "Did you get a look at it at all?"

"Yeah," she nodded vigorously. "It was ugly like I told you."

I snorted. "'Ugly' doesn't give me much to go on. I can think of lots of ugly critters—some of which are Earth authentic."

"Okay, you win." She closed her eyes, then opened one just a slit, as if she didn't really want to look at it again. "It was hairy and it had little tiny mean eyes. Had kind of floppy ears, like the Bhattacharyas' dog does. Had these big long teeth, just here." She opened her eyes long enough to jam her index fingers to her mouth, like huge canines jutting up from the lower jaw. "But *curly*." She bent her fingers to demonstrate.

I made a face back at her. "Ugly, all right."

"Wait, Mama Jason—you haven't heard the *worst* part." She squinted again then opened her eyes till they bugged with excitement. "Two worst parts. It had these big squarish front paws, almost like flippers, but with long claws on them. And it had this nose—"

Words failed her. She made a circle of her hands again, this time holding it out in front of her face. "Only not like a real nose." One hand still circled, she moved the other to cut flat across in front. "Like somebody's chopped it off flat—all raw grey and round, with two holes punched into it to breathe."

"If there's a prize for ugly," I said, "that wins." I got to my feet. "Now I think I'll have a look for myself—I need a cell sample." I grinned at Jen. "We'll see if its genes are as ugly as its snoot."

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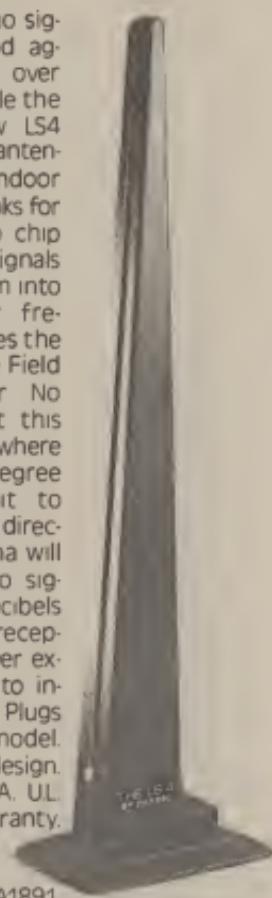
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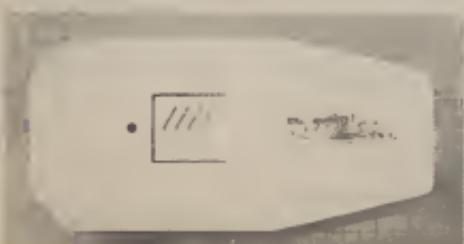
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There was a tap at my elbow. It was Ilanith, grinning real hard. "I'm way ahead of you, Mama Jason. Its genes *are* as ugly as its snoot." To Jen, she added, "And, yup, it's a Dragon's Tooth, all right."

That pleased Jen no end—extra points for getting chewed by something nobody else has ever been chewed by, I guess.

Didn't please me. At least, the implications didn't. I fixed Ilanith with the hairy eyeball I'd learned from Susan and growled, "How in hell'd you get a cell sample?"

Elly had fixed her with an even hairier eyeball. If that kid thought getting the sample was risking life and limb, wait'll she saw what Elly and I were going to do to her for risking it—

"Quit scowling, both of you," Ilanith said. "Mabob got the sample for me. He stripped a whole chunk off the Dragon's Tooth when he pecked it. After Jen said what happened, I cleaned Mabob's beak for him. That's where I got the sample I fed to the analyzer."

Ilanith's been doing gene-reads for fun ever since Susan showed her how. I've seen enough to know she does 'em right, too. I grinned at Susan over Ilanith's head. "That's what I like," I said. "Somebody who's way ahead of me."

"Me too," said Susan. "Let's see it, Ilanith."

"Here?" Ilanith cast a glance around the room—taking in all the onlookers.

"They'll feel better if they know what we're up against, too."

"Yeah," she admitted. "Guess you're right."

I gave her too much smug (deliberately) and said, "Of course."

She giggled and headed for the lobby desk and swung the computer around so everybody could see the screen. A few taps at the keyboard brought up her gene-read.

Chimera, no doubt about it. Not often you see that much of a mismatch. Still, from Jen's evidence, the damn thing was all too viable.

Ilanith sprawled across the desk and jabbed a finger at the screen. "I found out where *this* part of it came from. Here, I'll show you." Another stretch and another tap and there was a second gene-read on the screen. She highlighted the bits in common.

"Right about that, too," said Susan. "What's that when it's Earth authentic, Ilanith?"

"Disgusting," said Ilanith. By way of proof, she called up its photo from ships' files. The face was every bit as bizarre as the one Jen had worked so hard to describe.

"Lemme see," said Jen. Elly got a supporting arm under her shoulder, and she hopped over, wincing all the way. I moved aside to give her a clear view of the screen.

Jen nodded fiercely. "That's it, Ilanith!" She hopped two steps closer, staring. Elly, with a grunt, hoisted her onto the edge of the desk, where she peered at the screen a moment more and then said, "That's the face, but the feet are all wrong."

"Of course the feet are all wrong—you could have told that by the gene-read," Ilanith told her scornfully.

Jen deflated. "Could I have, Mama Jason?"

"Only after *lots* of practice," I said.

That mollified her. "Okay, I'll practice *lots*." She gave another look at the screen. "So what is it, Ilanith, if you know so much?"

"It's a wild boar—and even when it has Earth authentic feet it can dig like a plough. It eats just about anything a human being will eat and then some and it especially likes roots—so it's all adapted to dig stuff up with its snout."

"'Snoot,'" corrected Jen, with a glance at me.

"Ships' files say 'snout,'" Ilanith told me—then *she* looked at me too, which meant both of them were waiting for me to arbitrate.

"Whichever," I said. I'd been reading the entry on the screen, which finally twitched my memory so I had some idea what we had here. "Pigs," I said, thinking out loud.

From somewhere in the crowd, Chris said, "Pigs? As in *pork*?" She shoved through for a look, her eyes wider than Jen's, which I hadn't thought possible.

"Yeah," said Ilanith. "The files say wild boar is edible, too—'pork' is the word they use."

Chris is the cook for Loch Moose Lodge—and she's a jason as well. If we can't live with it, Chris will find a way to cook it so we can live *off* it. I haven't seen her that excited since we made her an official part of the team.

"Pork! You wouldn't *believe* how many recipes there are in ships' files for pork," she said. "Oh, you've *got* to keep them, Annie!"

Jen caught her eye.

"Oops," said Chris. "I know it chewed you, Jen. But it seems to me only fair that you should get a taste of *it*!"

Jen shook her head. "The thing that chewed me *isn't* pork, Chris. It's a Dragon's Tooth. Maybe it's not edible at all."

"Oh." Chris's face fell.

Susan patted her on the back. "Don't worry, Chris," she said, "We'll see what we can do for you."

Good a place as any to get the show back on the road. "Ilanith, shoot a copy of your gene-reads back to the lab for Mike, then see if you can find out anything about the other half of the chimera. It's a mammal—"

"Hardly narrows the field," said Ilanith.

"—But from Jen's description of the feet, it's a burrowing mammal, which *does* narrow the field some. See what you can find. Maybe Mike will have some suggestions for you."

I made a shooing motion to set her about the job then turned to Susan. "You're the expert at tracking down the origins of newly sprung critters—think you might be able to do it for a Dragon's Tooth?"

She'd have preferred to stalk the beast in the flesh, but the challenge

was too much for her. "If it can be done, I'll do it," she said. "Elly, what computer shall I use?"

Elly sent her off to the one in her own bedroom, after first disarming her. Susan gave her the hairy eyeball for that but Elly was immune from long exposure.

"Aklilu's at the age he plays with anything," Elly said. "I don't want firearms unattended while you concentrate on a computer screen."

"Gotcha," said Susan.

As long as I had so many helping hands, I went right on making use of them. . . . "Chris—if you'll make us up a collection of pork recipes, that'd be a help. Stick to things you've got everything but the pork for, though."

Jen had been looking increasingly anxious each time I parceled out a job, so I turned to her next. "Jen? You up to doing a computer search?" Her leg probably hurt like hell, but *doing* something might help take her mind off it.

She must have thought so, too, because she brightened and said, "Sure! What should I do?"

"You just learned how to read secondary and tertiary helices, right? Then you find out for me what's likely to be the *next* beast we get if your Dragon's Tooth breeds."

"Yeah! I can do that!"

"Then get to work—while I hunt up Leo and see what *he's* found out about your Dragon's Tooth."

I had a spate of offers of help to hunt down the beast but I side-tracked 'em all into standing guard on the lodge, where they'd be more use (and less likely to get in the way). Then I went out to track Leo.

I found him not far from the blueberry patch. Mabob bugged a brilliant orange eye at me but gave me no welcoming gronk. For Mabob to keep quiet meant he was stalking prey. I joined them on the skulk. Leo flickered a glance at me and pointed—the same direction he had his gun leveled.

I didn't see anything, not even the sort of hole in the ground Jen had described, but Mabob cocked his head and took a step in my direction. Leo shifted his aim.

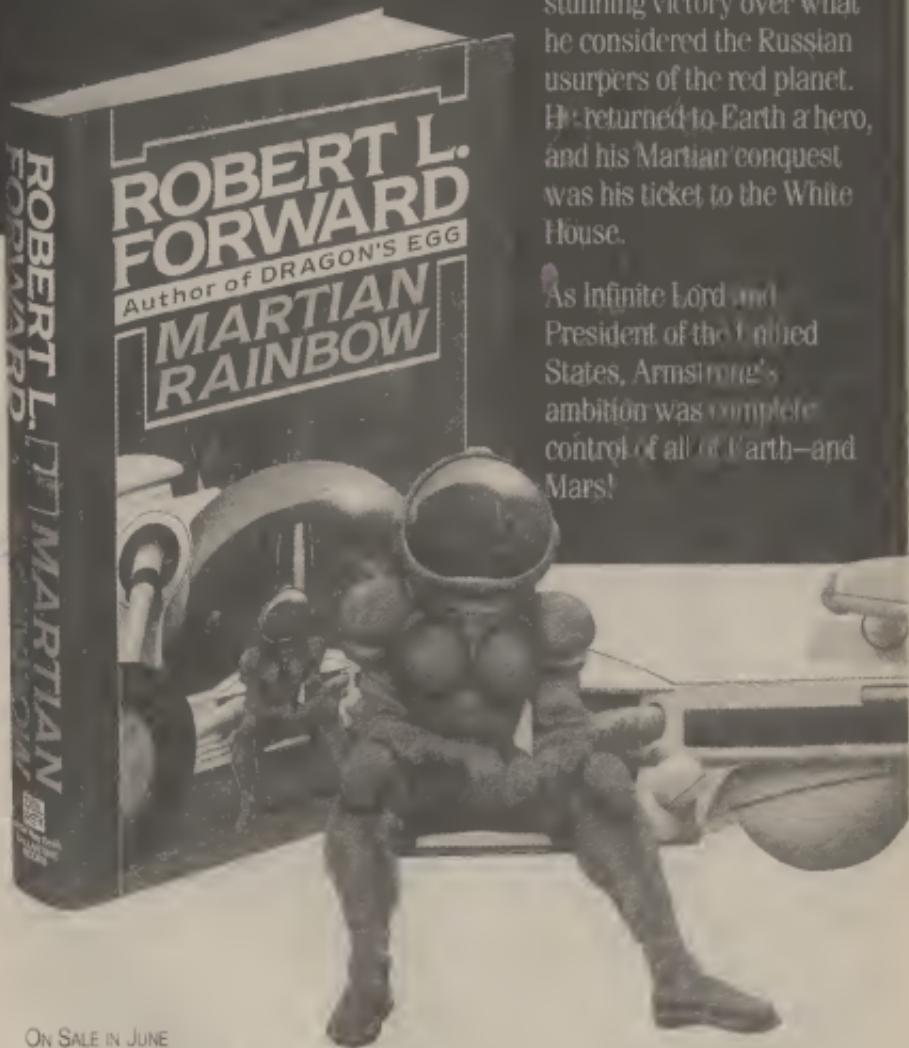
I brought my persuader into the same line without even thinking about it. I watched where Mabob watched, which is easy enough to do, because those orange eyes bulge to cones and focus visibly on his target.

Then I saw the ground surge. Well, if the damn thing made holes, maybe it burrowed through the ground as a general practice. The ground heaved up again, a little closer to where I stood, and Mabob followed, soundlessly picking closer to it on his huge taloned feet. Every time the ground bulged, so did his eyes.

To let Leo know my policy on this one, I snapped the safety off my gun.

The ground at my feet exploded upward—I got a flash of tusk and snout and claw—and squeezed the trigger full into its face. Leo fired at the same time. Bits of Dragon's Tooth and dirt showered us all.

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By the time I'd spit out the mouthful of crud, the critter was still twitching—but given that we'd blown most of its head away, it was no longer in the dangerous category. Mabob gave the remains a vicious clout with one clubbed foot, then cocked his head at me and said, "GRONK!" in hundred-decibel triumph.

"Gronk is right," I told him, my ears ringing.

"They react to sound aboveground," Leo said. "Remember that next time, Annie: don't wait till you're *close* to take the safety off your gun."

I nodded and knelt for a close look at what was left of Jen's Dragon's Tooth. I'd seen those flipper-like front paws somewhere before, in ships' files if not in real life. You couldn't have built a critter better adapted for burrowing if you'd started from scratch—certainly *I* couldn't have and I'm not the least bit ashamed to say I'm good at what I do.

Leo said, "And you've *got* to step more lightly. Both that thing"—he gave it a tap with his toe—"and Mabob heard you coming before I did. The Dragon's Tooth shifted course to stalk *you*. If 'stalk' is what I mean when it's done from *below*."

I nodded again and rooted out what remained of the Dragon's Tooth. It had stopped twitching. I stood up, holding the critter by its twist of a tail, and gave Leo a kiss hello, never mind the dirt and all.

Mabob gronked again. He gets an enormous kick out of our necking, for some reason I'll never know.

Leo's smile brightened up my whole day. Best thing about a well-worn face like Leo's is that it's got all the laughlines well worn in—for extra emphasis. After a moment, he turned to Mabob. "I know what you mean, Mabob—but you'd better *hush* before you attract a dozen *more* of those things our way."

He let go my shoulder to replace the spent cartridge in his shotgun. I took the cue and did the same. "How many more?"

"I don't know for sure. But I don't see how one could have done all the damage we found. We picked this one to track because it looked as if it were on its own. I was hoping to find a way to bring one back alive for you."

I shrugged. "I don't need a live sample and a dead husband. I won't quibble when it comes to something that seems to have a taste for attacking humans."

Leo nodded. "Then you'd better come see the extent of the problem. From a distance, unless you can be as lightfooted as Mabob."

Mabob rattled his scales happily at the mention of his name and Leo scratched him around the eyes.

"From a distance," I said.

We trussed up the carcass (I wanted a good look at its innards when I had the time and place) and I slung it across my shoulders, careful to leave my hands free. Leo did a little extra tying, to make damn sure it wouldn't attract its kin by thumping against me as I walked.

Then they led the way and I followed, as tip-toe as I could considering the brush and the ground cover. Don't get me wrong. I've had enough

practice that I can stalk most anything safely, but this one had already proved its senses outdid my stalking ability. *Extra* careful was the order of the day.

We skirted along the hillside, keeping Loch Moose to our right hand always. It glittered through the trees. In the distance I could hear the otters and their cousins, the odders, playing. Typical day—including the Dragon's Teeth—except that I found myself watching the ground more closely than usual.

Every once in a while, there was a soft patch in the earth. And where the soft patch neared vegetation, the vegetation was dying or dead—wasn't just people this Dragon's Tooth had a taste for. All in all, I counted some fifty different species of plant that had been tasted to destruction. Most of them had no visible marks above ground. Looked to me like the Dragon's Tooth was as much a root-eater as its wild boar kin.

I restrained my impulse to check, though. If the click of my safety well aboveground had attracted one, my grubbing around in the dirt would sure as hell bring 'em—and in quantity. I'd save the digging for later, under more controlled circumstances.

Leo had stopped, so I did too. Mabob stalked a few feet beyond us, but when he saw we weren't following he made a hasty silent retreat. I looked where Leo pointed.

I didn't need the point—I only mention it because he did it with his shotgun—the state of the trees would have been enough to make me sit up and take notice. An entire grove of smoking pines would never smoke again.

And at the center of the grove—a dozen or more holes in the ground—each the size and shape of the hole Jen had made of her hands.

I was looking at an ecological disaster. Smoking pines make most Earth authentic species sick enough to leave them alone, but they'd had no effect at all on this particular Dragon's Tooth. Without protection . . . I had a sudden stark image of Loch Moose, still glittering, amid a entire forest of dead trees.

Wasn't gonna happen. Not if I had anything to say about it. I glared at the burrow holes.

Mabob's head swung sharply and suddenly to blaze into the woods beyond. I couldn't see anything but, a moment later, I heard it, too: the footsteps of clashings headed our direction. I got ready to duck (clashings will butt anything eyelevel; hit the ground and they jump over you), but kept my eye on the burrows.

With a little luck, the clashings would distract the critters and let me in closer. Leo had the same idea—and we edged closer in unison. That was fine with Mabob, who did the same, his eyes flashing from woods to ground and back again like bright orange warning beacons.

Then something startled the clashings and they aimed straight for us at full gallop. Leo and I both dropped to the ground—trying to land without a sound, so as not to attract the attention of the Dragon's Teeth.

Mabob watched the wood for a long moment, then returned his very orange attention to the ground in front of us. Ordinarily he'd have given the clashings a warning blast. As he didn't, I knew he considered the Dragon's Teeth more dangerous than the prospect of being bowled over and bruised by a clashing.

Leo drew the same conclusion from Mabob's behavior I had and we kept our guns aimed *down*.

The clashings burst into the dead grove, paused—likely the unfamiliar smell of the Dragon's Teeth—then charged ahead through. It was a disastrous mistake.

The first one made it across the clearing on luck alone. It was over us and gone before Mabob had a chance to blink up from his crouch.

The next two hit that soft ground—must have been *riddled* with burrows—and I heard the bones snap. The otters in the lake probably heard the bones snap. The third—well, the ground heaved up all around it. It was like seeing dirt boil. And for every leg there was a Dragon's Tooth, with tusks. They dragged the clashing to the ground, with a frenzy of snorts and snarls.

I'd never heard a clashing scream—but this one did—and the sound went right through me.

Some of the Dragon's Teeth went to work on the other clashings as well. I counted seven of them. Once they'd gotten the clashings in the throat, the screaming stopped, except for the echo in my head.

I touched Leo on the shoulder and motioned him back. As we edged away, one of the Dragon's Teeth spotted the motion and flopped toward us—not nearly so fast aboveground as it seemed below.

We kept backing, while it snarled threats—threats it could all too well carry through on. It gnashed those tusks at us for proof.

It might have just been warning us away from its prey but it got too close to Leo for my taste. I blew its head off.

By the time the shot stopped echoing, every last one of the Dragon's Teeth had vanished into the ground.

Mabob, who hadn't been the least bit startled by my gunshot, jerked to sudden attention—eying the ground with fierce suspicion. Leo and I took the cue—they were more dangerous underground than above it—and the three of us hightailed it into the bush.

Leo knew the territory better than I did and I followed him. After a hundred-yard dash, he came to an abrupt stop. I looked down at my feet and laughed—he'd brought us to a generous outcropping of rock.

"Good thinking," I said, once I'd gotten my breath back. "Give 'em all a headache, if we're lucky." I sat down and patted the ground beside me. Mabob stepped into the spot I'd patted, whistled cheerfully, and sat—his long legs seeming to vanish completely beneath his belly. "That wasn't quite what I had in mind," I told him, but I rubbed him till he rattled anyway.

Renewed snorts and snarls from the direction of the dead grove made him stop rattling and blaze his eyes. From the sound of it, the Dragon's

Teeth had gone back to work on the clashings. Whether the grunts and snuffles and squeals were pleasant mealtime conversation or nasty family squabbles, I had no idea, but I was just as glad they were otherwise occupied.

Mabob obviously had the same reaction. He resumed his rattle and began to preen, for all the world as if nothing out of the ordinary had happened for weeks.

Taking his example, I leaned back and relaxed—just enough to be pissed that I hadn't gotten a sample from the second critter we'd shot. Dragon's Teeth can vary wildly from tooth to tooth.

I looked Mabob over, but all that preening was just for the sake of preening. He was too damn clean to help this time. Luckily, I couldn't say the same for me—I was a bloody mess. I scraped all the most promising bits and goblets off my pants and tucked them away to gene-read when we got back to the lodge.

Leo smiled at the two of us preening, sat down on the other side of Mabob, and did a little preening of his own. He handed me bits to add to my collection. Then he said, "How do you know that charge was anything more than a 'keep away from my clashing'?"

"I don't. But I sure as hell didn't like the way they brought that clashing down."

"Does this mean you won't let me catch you one to study?"

"Who am I to spoil your fun, Leo? But taking one of those alive is going to require some precise planning."

"And a lot of sheet metal, I think."

Sheet metal. . . . "Well, that's your department. The carcass is mine. Think it's safe to head back to the lodge?"

"Better to do it while they're busy with the clashings," he said, "but let's tiptoe."

We tiptoed all right. And when we got back to the lodge, the first thing we did was warn the folks doing guard-duty they'd better be sneaky about it. Second thing we did—once inside—was bellow out a "We're both *fine!*" into the now-empty lobby. Knew the sounds of shots would've worried Elly, not to mention the kids.

Then I looked down at Mabob. Usually I don't encourage such behavior but, under the circumstances. . . . "Give 'em a gronk, Mabob. Let 'em know you're okay, too."

I never know how much Mabob actually understands. Whether he got the words of my message or not—maybe he decided it was okay to yell because I had—he got the general idea and let 'em have it with a single ear-splitting, head-rattling "GRONK!"

Ilanith was the first to the bottom of the stairs. She grinned at Leo. "He's noisier than you are, Noisy."

Leo grinned back. "I agree. It just so happens, though, that 'noisy' is not a good thing to be just now—not out in *those* woods."

"Likely story," she said. "Mama Jason, Mike wants you to call him

soon as you get back—*right now!* The other half of the Dragon's Tooth is mole but we still haven't found out what it came from." She darted her eyes back to Leo. "Sour grapes," she said.

I shook my head. "Nope, he means it. He'll tell you all about it while I call Mike."

Mole—that's where I'd seen those forepaws before. Not that I'd seen any moles on Mirabile, but in the photos in ships' files. Just because I hadn't seen any live ones, didn't mean they hadn't sprung up. Maybe they were the source of the Dragon's Teeth.

Mike had no new information for me—he just wanted the on-site report. He was still itching to come see for himself. By the time I got done telling him about it, he'd lost some of his enthusiasm.

And when I told him about the damage to the smoking pines, he dubbed them "frankenswine" on the spot—but his face was a little too grim for the joke.

"You named it," I said, and I told him what *else* they'd eaten.

His face got grimmer. "Sounds like we can't afford them."

"You know me, Mike: I hate to throw anything away. You never know what might be useful in the long run." I wasn't convincing myself, though, so I knew I wasn't convincing him either. I heard myself sigh. "Damnify know. Leo's going to try to catch one—when I know more, I'll call you."

"Should I arrange rooms for Elly's kids?"

I shook my head. "The lodge is built on solid rock. It's not as if we'll have 'em coming up through the floor." I shook my head again. "No, I don't think it's necessary."

I did have to swear on Grandpa Jason's genes I'd call him with anything new, but he finally let me sign off and get back to business.

First business was Elly, who'd been watching over my shoulder. "You heard?"

"M-hm. I've already told assorted parents you hadn't recommended evacuation of the kids—now I can call them back and tell them why. You're getting Beate Opener Valladin, though, ready or not."

Valladin—that made her Jen's genetic mother. "Ready, willing, and able to blow away frankenswine?"

Elly smiled. "I sic'ed Leo on her. She's going to help him trap you one."

"Leo's amazing." I couldn't help smiling at the thought.

"He is. Especially since I see *you* had no hesitation about blowing one away." She pointed.

The ugly carcass lay beside the computer, right where I'd left it.

"Sorry," I said. "Want me to do the dissection outside?"

"Not on your life! Take it in the kitchen. Chris will give you something disposable to cut on, just in case it's toxic. She'll want to kibitz, too."

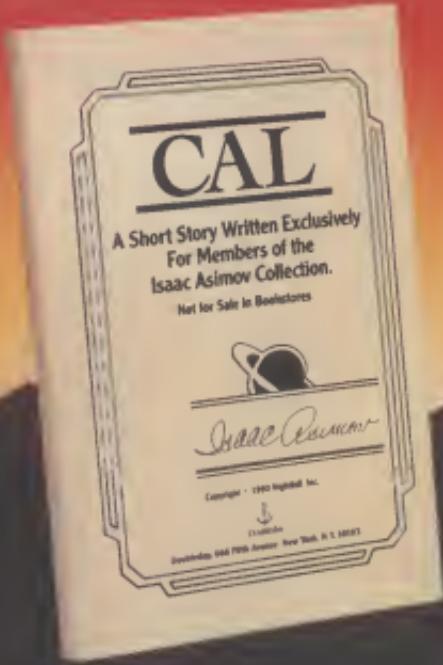
I can do with Chris's sort of kibitzing any day. While I took the thing apart to see what made it tick, Chris ran samples through every toxicity test she could think of—and some she'd invented, as well, since Earth

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authentic toxicity tests didn't cover a number of the Mirabilan possibilities.

By the time I got done, I had a healthy appreciation for the frankenswine. It was a beautiful job of bioengineering—couldn't beat that mole and boar combination—efficient as all hell. I was not happy.

Chris, on the other hand, was ecstatic. "Perfectly edible, Annie, if you peel off that layer of fat. The fat's got heavy-metal concentrations you wouldn't believe—"

Probably from the smoking pine roots it'd been eating. Which did nothing to improve my opinion of the beast.

"But," Chris went on, "the meat's not just edible, it's full of stuff that's good for humans to eat." She hovered over me, just waiting to grab the carcass and cook.

I laid a hand on the frankenswine's haunch.

"Aw, Annie. Come on. Frankenswine is good to eat!"

"Chris, *this* frankenswine may be good to eat but don't make the mistake of thinking they all are. You'll have to run through the whole set of tests on each one individually. Dragon's Teeth can vary wildly from one to the next in the same litter—one gene off and you could wipe out everybody at the table."

She looked serious enough that I knew she'd heard me. "Right," she said, "I test each one separately. But I'm still sorry you couldn't bring the second one back." She held out her hands. "Give. Except for the fat and the liver, this one's okay to eat."

"One thing more." I gave her a grin to let her know this one wasn't in the doom and gloom category. "Get me your best butcher knife—I think Jen ought to have those tusks for a souvenir."

Her eyes gleamed wickedly. Between us we defanged the frankenswine with a will. Might have been satisfying, except all I was thinking was if it could handle heavy metals without poisoning itself, how the hell were we going to get rid of it?

Chris was right, dammitall—frankenswine made a really fine tazhine. Stewed up with raisins and onions, it was enough to make even Jen think twice about wiping out the frankenswine altogether. Except it wasn't worth that dead grove. I kept chewing but I was chewing it over at the same time. Ordinarily, I give Chris's food the attention it deserves—but I was losing a taste for frankenswine even as everybody else around me seemed to be gaining one.

"Keep scowling like that, Annie," Leo muttered at me under his breath, "and Chris will never speak to you again."

At times I wish my face didn't show every damn thing that goes through my mind. I made an effort. It must not have worked because Leo grinned and tickled me under the table, which *did* earn him a grin back.

After I polished my bowl, I looked around the table and said, "Okay, who's got what to report?"

"Me!" said Jen triumphantly, overriding the rest. So the rest let her have the floor without so much as a squabble. Being gnawed gives you certain proprietary rights, even in this lively a bunch.

"So," I said, "What do we get if they breed with each other?"

She pulled out a sheaf of hardcopy. She'd been sitting on it, literally—it was still warm from her bottom when it reached my hands.

"It's hard to tell, Mama Jason, because it'll depend on which one breeds with which one. Maybe the others aren't viable. But the two you and Noisy killed would have been. You see if I'm right." She glanced at Beate and explained, "Better if somebody checks, so I know I'm doing it right."

Then she turned back to me. "The bad news is, chances are the rest of them can breed *more* little frankenswine."

"Just what we needed," I said, and Jen nudged Beate and said, "See? Told you she'd say that."

I was reading Jen's hardcopy but I didn't miss the grin back that Beate gave her—or Elly's chuckle, either.

The hardcopy was nothing to chuckle over, though. She'd printed out all the steps she'd gone through to get to it, so I could follow along, fully aware that she'd gotten the procedure right. If the procedure was right, so were the conclusions and she'd summed those up correctly, too. If the two frankenswine we'd killed had bred, they'd have bred *more* frankenswine.

"Leo? I counted about seven of them. Does that jibe with your count?"

"I made it eight, not counting the two we blew away."

"Any reason to think they're all from the same litter?"

"Statistical reason. That's an unlikely sort of Dragon's Tooth to happen twice or more in a season. Wild boar have large litters—up to twelve at a time."

I'd been thinking the same myself, but I hated like hell having it confirmed.

"Don't blame the messenger," Leo said—but the smile he gave me said he wasn't about to take my snarl personally no matter what my face did in his direction, which was enough to make me smile back, of course. "Maybe some of them *aren't* viable."

"Twelve in a litter," I said. "Jen, can you run a probability program?"

"Of course," she said.

"Then you take these"—I handed back the hardcopy—"and you run me one. I want to know the odds on the next, oh, ten generations. How many frankenswine are we likely to wind up with?"

"Mama Jason?" That was Ilanith. I nodded at her and she said, "I read up on wild boar. They can have *two* litters a year. Maybe they won't on Mirabile, but they could back on Earth. So. . ." She held out both hands in Jen's direction.

Worse and worse. To Jen, I said, "So plot probability for *two* generations a year. Worst case."

"Want a best case, too, Mama Jason?"

"Only if it makes *you* feel better," I said. "It's worst case we have to plan for."

She gave it earnest thought, then she said, "I'll run a best case, too. After all, I was the one got chewed—but Chris is right about how good they taste. Maybe we could just eat them all."

The damage to Loch Moose's vegetation said different but I didn't say it—let her have her best case. I had a feeling it wouldn't look much better than worst case.

"Next up," I said, and turned to Susan. "Have you got a line on what produced 'em?"

She'd been awfully quiet through dinner and she didn't look like she much wanted to talk now. "Yeah," she said, grudgingly, "and you're not gonna like that, either."

"Worst case," I said, shrugging.

"They didn't come from moles."

"Meaning . . . ?"

"The gene-read says they came from Earth authentic wild boar. Meaning we've got wild boar loose in the woods somewhere, as well as the frankenswine."

And Leo and I had thought ourselves safe sitting on that rock outcrop. I looked at him and he looked at me. Either he whistled or I did. I rubbed the back of my neck, where the hairs had suddenly stood up.

"Elly," I said, "nobody's to go into the woods until we get this sorted out. And nobody so much as goes from the lodge to the hovers without a shotgun."

Elly frowned. "How is it possible we're had something that dangerous around long enough to have a litter—and nobody spotted it?"

"I think it's likely it shifted range. Maybe because of bad foraging conditions elsewhere. Maybe because it wanted a quieter neighborhood for its brood."

"A fifty-mile shift would be nothing to a wild boar," Ilanith put in. "And you wouldn't have seen it unless it wanted to be seen. They've got lousy eyesight, but they make up for it by being a lot better at hearing and smelling than a human. They avoid humans unless the human makes a point of it."

Glen Sonics Dollery, who'd been taking this all in from up the table, said, "Then they might have moved here from the area around Ranomafana—don't know if you heard, Annie, but they're having a bad drought there. Lots of animals dead, lots of trees dying."

"Trees dying," I said. "They sure that's drought and not a brand new predator?"

He leaned back and considered the question. "The fellow I stayed with said drought and I wasn't there long enough to disbelieve him. I haven't a woods' eye, Annie. Leo could probably tell you at a glance if the damage was lack of water or . . ."

I eyed Leo. If memory served, he'd opened that territory.

"Drought isn't the likely explanation," Leo said. "Not in that area. I'll call around and see what I can find out."

Dollery said, "Are you folks still planning to trap one of the frankenswine? Even with this other thing loose in the woods?"

Leo nodded; so did Beate. "We'll keep our eyes on the undergrowth as well as the underground," Leo added.

"Maybe I can help, then," Dollery said. "I may not have a woods' eye, but I've got some equipment you could use as an ear for things happening underground. I might even be able to tune it to a specific creature."

"Your department," I said to Leo. He nodded at Dollery.

Elly said, "Maybe the wild boar isn't as dangerous as its offspring. If it's kept away from humans so long, why should it change its habits now?"

"Because we blew away two of its children this afternoon," I said. "If Ilanith's right about its sense of smell, it knows who was responsible. How did you feel about Jen? Double that for our wild sow. If she's bright enough to carry a grudge, she's carrying one helluva of a kingsized one against us."

Leo's plan to capture one of the frankenswine awaited the arrival of some sheet steel—but we did make one last foray outside before we lost the light. Dollery'd done some tinkering and we drove a series of sensors into the ground that would theoretically let us know if anything nasty tunneled close to the lodge. Finding out how far from the lodge we had to go for ground soft enough to drive them into was reassuring—at least, if you didn't count the possibility of mama boar showing up on the porch, tusks curled and ready for vengeance. I said as much.

"Quit growling," Leo told me. "The sensors will pick up anything that so much as pussy-foots this close to the lodge. That should hold us for the night. We can worry about the fine-tuning tomorrow."

I snorted. "Meaning nobody sleeps through the night—we get roused for every clashing or red deer in the neighborhood."

"Cheer up," he said. He grinned at me. "Maybe for once we'll get a good look at the Loch Moose monster."

"Ah," I said, "but do you really *want* a good look at the Loch Moose monster?"

We went in, still chuckling at each other, and packed it in for the night.

Turned out it wasn't the frankenswine or the wild boar or even the Loch Moose monster that disturbed our sleep.

"Wake up, Annie," Leo whispered. "We've got company."

"If it's a clashing, I don't wanna hear about it." I don't take kindly to being awakened in the middle of the night.

"It's one of the smaller Loch Moose monsters," Leo said.

There was enough of a smile in the voice that I caught on even before I heard the barely suppressed giggle of one of Elly's kids. I made an effort and came fully awake. Middle-of-the-night visits at Loch Moose Lodge

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are not out of the ordinary, but they're always interesting, one way or another.

"Shield your eyes, I'm turning the light on," I said. When I could see again, I saw that it was Jen. Despite the giggle I'd heard, her face was solemn. I planted an elbow on Leo's chest, peered across at her and said, "What's up?"

"I tried and tried, but I don't know enough yet, Mama Jason. How do I find out what the wild boar came from?"

"The automatic program only handles one step back—if it does that," I said. "We might be able to do it manually. But the easiest way is to get a cell sample from the wild boar and analyze that. Only way to be *sure*, anyhow."

She sighed heavily and the frown furrowed deeper into a forehead that was never meant for frown.

"Is this important?" I could feel my face slipping into a frown to match hers. "You should be asleep. I need you rested and awake for action tomorrow."

She gnawed her lip. "It's important. Will you get a cell sample from the wild boar tomorrow?"

I looked down at Leo, then back at Jen. "That's high on my priority list, kiddo."

"Will you tell me first? Where the wild boars are coming from, I mean."

"You can do the gene-read yourself," I said, "if you get enough sleep you can see straight."

That should have been enough to send her scooting, but it wasn't. She shifted her weight, enough to let me know her leg was aching. "It has to be *right*," she said. "Me first after you. *Not Ilanith or Susan.*"

Not what I'd've called the usual request. I cocked my head suspiciously but she didn't back down. If anything, the small face set stiffer. "Okay," I said, "I guess you earned it. You do it; I'll check it."

Relief spread instantly across her features. It hadn't been the leg that was hurting, after all. "Thanks, Mama Jason!"

"Now, off to bed with you, kiddo, before Elly catches you up this late and feeds you to the Loch Moose monster!"

"G'night, Mama Jason." She leaned across Leo to give me a kiss on the cheek. "G'night, Noisy." Leo got a kiss too and then she was gone.

I was still wearing an elbow-hole in Leo's chest, thinking about it.

"Not Susan or Ilanith?" he said, shifting my elbows. "What do you suppose *that* was all about?"

"Damnify know," I told him. "But I'm sure gonna find out. In the morning. Or, at least, sometime when I'm awake. G'night, Leo," and I gave him a pretty thorough goodnight kiss before I feel asleep again. Made up for the elbow-hole some.

I dawdled over breakfast, knowing I was stuck with the computer for the rest of the day. The plates of sheet-metal had arrived and Leo and Beate were gearing up to catch us a frankenswine or two.

I felt better that Beate was going along with the plan. No offense to Leo, but the more I read about wild boar, the less happy I was having *anybody* in the woods. Younger, faster reflexes were in order. Dollery's probes would give them some warning and the sheet metal some measure of protection but still....

I made Leo call Ranomafana before he got away from me though. Turned out they'd lost an entire bed of bulbs last spring and hadn't thought to mention it to anybody.

"The whole damn population's getting too lax," I said. "Need a good shake—each and every one of 'em."

Leo laughed. "I shook him for you, Annie. I left orders nobody was to go out unarmed—and told them why. I guarantee the next time anybody in Ranomafana sees anything out of the ordinary, we get notified immediately."

"Good. At least that's accomplished something."

I turned and put in a call to the lab. It wasn't Mike I got but Nikolai Jason Jembere. Nikolai's one of Leo's kids and you can tell it at a glance—the laugh lines are all in the same places, even if they aren't as well worn in as Leo's. One of my favorite examples of good genes in action.

Of course, that also meant he was mad as a hatter that Mike hadn't let him come charging up to Loch Moose the minute he heard what was going on.

"Down, kiddo," I said. "I want you and Mike, fully armed and all eyes peeled, up at Ranomafana as soon as you can get there without wrapping the hover around a tree. There may still be frankenswine in the area—or wild boar. Be ready for either. I want a full work-up on the EC, with special emphasis on the supposed drought damage. I want it yesterday."

He grinned and stopped trying to jump out of the screen at me. "What's the policy, Annie? You want them saved, right?"

That was the crucial question, all right, but I'd answered it the day before. I shook my head. "Shoot anything that charges you, Nikolai—above or below ground. Save a cell sample of each. We can always reconstruct if we decide they're keepers but I don't want you or Mike taking any chances. You haven't seen how fast or how nasty these little buggers are."

He nodded as solemnly as Jen would have. Then he grinned a descendant of Leo's grin and said, "You've been hanging out with Elly too much—you're picking up her Voice of Command."

"Whatever works," I said, grinning back. "And, Nikolai, we haven't dealt with any wild boar yet. Judging from the information in ships' files, they're as fast and as nasty as the frankenswine—only they weigh up to three hundred pounds."

His eyebrows went up and he gave a short, sharp whistle. "We'll read up on the way. We'll be careful, Annie, I promise." He nodded again, this time over my shoulder. "I promise, Leo."

I passed a few more specific instructions to Mike, then I broke the connection and turned back to Leo.

"I heard what I needed: don't take chances with them. You don't think they're keepers, do you, Annie?"

"You saw what they've done to the smoking pines."

"I saw," he said, very quietly, and he nodded and turned to go.

I caught his hand. "I haven't heard what *I* need to hear."

He smiled. "I'll be careful, Annie. I *promise*."

That earned him another kiss. Then we both got back to business. First thing I did was double-check Susan's backbread on the frankenswine genes. Sheer wishful thinking. I knew she didn't make mistakes like that—sure enough, the frankenswine backbread to wild boar and *damn* those geneticists back on Earth!

Because of Jen's late-night visit, the next thing I tried was reading a step further back, to see if I could figure out what the wild boar had chained up from. No luck there. Like Jen, I'd have to wait till I had a sample of wild boar to work from.

A celebratory "GRONK!" from the lobby told me the hunting party had returned and I took the stairs two at a time. Never heard such a cacophony in my life.

Leo and Beate had set their makeshift cage dead-center and it wasn't just the nosy-parkers exclaiming over their catch that made the room reverberate. Hideous snorts of rage came from the cage, now and again punctuated by the scrape of tusk on metal as the frankenswine tried to gouge its way through. Luckily, those flipper feet couldn't get much purchase on sheet metal, but nevertheless three people were very hastily trying to reinforce the cage where it had already deformed from repeated impacts.

Mabob paced back and forth excitedly and answered the frankenswine's grunts and snorts with challenging gronks of his own.

"Outside!" I bellowed over the noise. "Where's your sense, for god's sake?" I glared at Leo, who simply grinned back and swung a hand to indicate the gaggle of onlookers.

Elly did what I couldn't. "Outside," she said. She didn't even have to raise her voice to cut through the excitement. "Take that thing outside this *minute*."

You never saw such an abashed bunch in your life. The cage and its squealing contents got hefted up and taken outside that *minute*. Even Mabob looked hang-dog, thoroughly ashamed of his behavior. He whistled anxiously at Elly until she took pity on him and scratched his head.

"It's not your fault, Mabob," she told him. "I'd have credited Leo and Beate with more sense, though." She raised her voice and pierced the cacophony once more. "I want all you kids inside—*now!* The same goes for any adult who is not armed." Elly, who *was* armed, put her free hand on her hip and glared. "Move."

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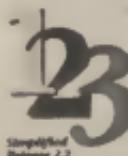


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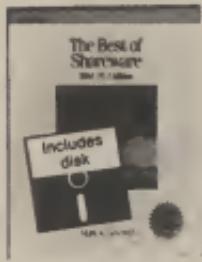
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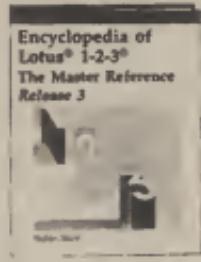
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There was no grumbling, no reluctance—we just *moved*, as commanded.

Which meant I had to dash upstairs for my shotgun before I could get a good close look at Leo's prize captive. I was coming down the stairs at a good clip (you don't run with a loaded shotgun in your hand) when I heard Dollery's alarm go off.

I ran the rest of the way, never mind the loaded shotgun. As I elbowed my way through the crowd at the door, I heard two shots, then a third. My gun was up and ready when I hit the porch. I got a single quick glimpse of something huge and gray charging Leo at incredible speed.

Ten yards—five yards—My shot and Elly's went off simultaneously—but it was Elly's that did the job. The creature dropped.

Momentum tumbled it head over heels and it slid to a stop scant inches from Leo. Leo, with perfect equanimity, lowered his gun and put a fifth round into its throat, just to make sure. It finally stopped moving.

"Susan!" Elly yelled over her shoulder into the lodge. "Bring your gun!"

I was reloading. "There's at least one more of them," I called down from the porch. "Don't relax yet."

They hadn't; they were reloading as fast as I was. Elly snapped her gun shut and nodded crisply. "That's why I called Susan," she said. "Next to Beate, she's the best shot here." Her brilliant smile returned. "I know you'll want to examine that thing, Annie, but I want you covered the entire time."

"Thanks," I said. "And thanks for saving Leo's butt for me. I appreciate it."

"Didn't want to lose *Loch Moose's* best bedtime story teller," she said. "The kids would never have forgiven me."

Susan pushed her way through the crowd of onlookers at the door, took strict instructions from Elly and took up her post. Beate stood by the frankenswine's cage but turned all her attention on the underbrush that surrounded the clearing.

I went down the steps to Leo's side. He didn't seem to be missing any body parts—relief washed over me and I gave him a huge dopey grin just on general principles.

Then I went down on one knee to get a good look at the critter. I *didn't* lay my shotgun aside.

"Mabob heard it before the alarm went off," Leo said. "That was all the warning we got. The damn thing didn't even stop to issue a challenge—just came straight at us." He glanced at the caged frankenswine. "Straight at *us*, Annie. And at about thirty miles an hour!"

"I saw how fast it was. Lucky for us Elly was faster."

The corner of his mouth twitched up in half a smile. "And here I thought it was *your* shot that took it out."

"Disappointed?"

He gave me a full grin. "Not as long as it's dead." Practical man—I like that.

The carcass was our wild sow—and I had no doubt she'd been the mother of the caged frankenswine behind us. She'd attacked the humans, not the cage. That made her altogether too bright.

And I really didn't like the looks of the wounds I found on her body. The first shot had taken her full in the face—and hadn't penetrated the skull. The second, at the shoulders, hadn't gotten through the thick hide.

Elly's shot had been the one that took her down, all right. She'd gotten it in the spine, from above. *That* had penetrated. So had the shot to the throat.

I took out my knife and started probing for places you *could* shoot it successfully. There weren't enough of them. The heart was low and behind the leg, which made it a tough shot when the thing was charging you face on.

Mabob came tentatively over to pick up scraps and swallow them down. I saw he was keeping an eye on the brush, too.

"Hey, Mabob! Leave some for the rest of us!" Chris, shotgun in hand, made shooing movements at him from the porch. "Annie, anything you don't need, I claim."

"All right," I said. "Send out four people to help us get this into the kitchen."

It took that many, too. It was *big*! I couldn't think of a single native Mirabilan predator that was big enough or fast enough to take one of those down. I wasn't even sure there was anything Earth authentic that could do it either, short of Elly and a well-placed shot.

I gave the frankenswine some further consideration. After I'd gotten a cell sample from it, I said, "Leave it in the clearing—in its cage. If papa shows up to rescue it, shoot to kill. Best you watch from the porch and aim for the spine or throat. Leo—"

He nodded. "I'll call Nikolai and Mike and warn them what they're up against."

"Put out a general warning as well," I said. "We don't know how many there are—or how far they may have ranged."

In the kitchen, I collected what samples I needed, plus a good hefty chunk for storage—you never know what you might need *some* day, so I saved the ovaries as well. Mirabile might never be ready for wild boar, but I don't burn bridges before I come to them.

Took the sample of the wild sow to Jen. "Here," I said. "You first, as promised."

"Mama Jason. . . ." She stuffed a sample into the analyzer, then handed the rest back to me. The worry hadn't left her face. "You'll check it, won't you? Make sure I'm doing it right?"

I nodded. "Sure thing."

"But tell *me* first."

Well, that wouldn't hurt any, as far as I could see, but it was still odd behavior coming from Jen.

I nodded again. "Trade you for your probability study. And you let me know the minute you find out anything."

She gave a sigh of relief. "I will, I promise."

I took the sheaf of papers she offered and headed back to my room to have a good long look.

Her "best case" promised ecological disaster. Worst case really *was*. If we were *lucky*, we'd wind up with frankenswine. If the wild boar bred true, we'd be overrun with them in five years. I believed her figures but I ran my own set because I didn't *want* to believe her figures. Didn't help.

What with two litters a year—even if only one or two offspring were viable—and no natural predators, the wild boar could outbreed anything on Mirabile.

All my life, I've been grateful that those geneticists back on Earth hadn't included diseases on their list of keepers. Now I was almost sorry—if there'd been any disease that could cut the wild boar population to a manageable level, I'd have turned it loose in a second.

I stuffed a sample of wild boar into my analyzer. Jen was right—we needed to know what they were coming from. I didn't get right to it, though—got a call from Mike and Nikolai.

"Uh, hi, Annie," said Nikolai, looking a bit worse for the weather. "We had to kill one."

"Good," I said. "Are you two okay?"

"We're fine," he said. Then he caught up with me. "'Good'?" he repeated.

"That's what I told him," Mike put in. "He didn't believe me. Annie, these things make the damnedest mess of the ecology. You wouldn't believe what they've done to Ranomafana—and everybody here was ascribing it to the drought, or to something Mirabilan."

"It's clever and it stays clear of people," Nikolai said. "Nobody ever saw one. We only found it because we tracked it."

"And we tracked it from the dead trees it left in its wake," Mike put in darkly.

"Our turn to warn you, Annie," Nikolai went on. "We stalked the thing for twenty minutes, chased it for another twenty—then, no warning, it turned and charged us. And you should see that thing *move!*"

"I have," I said.

There was silence for a moment, then Mike said, "You're gonna get an argument on this one, Annie."

He thought I meant to keep the wild boar. What with my reputation, I suppose that was fair, if only because he'd had such a close brush he wasn't thinking quite straight.

"I doubt that, Mike," I said and watched him stop and think. "Here's the probability run Jen did on future population."

He swapped me for his preliminary report on the EC at Ranomafana. It only confirmed what I already knew. The wild boar ate anything—Earth authentic, Mirabilan, didn't matter. Stuff that would poison 90 percent of our Earth authentics, the wild boar ate, safely. The frankenswine ate the same—with heavy metal sauce.

And I wanted to personally gnaw the roots of anybody in Ranomafana

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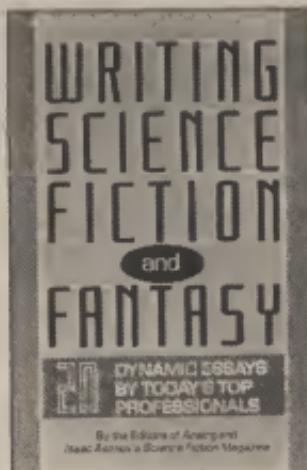
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who hadn't bothered to report such obvious and widespread damage to their local EC.

Mike looked up from the probability study and said, "You can't keep these, Annie—"

"I know," I said, before he could work himself up into a real state.

He took a deep breath and visibly calmed. "So now what?"

I took a deep breath, too. "Order a hunt," I said. "We can't afford to keep them. But try for a cell sample from each one."

His hackles went up again. I could see his jaw set.

I threw up both hands to fend off protests. "I'm not asking you to save the beast, I'm asking you to save its *potential*. Suppose we *don't* have any embryos for pig in the ships' banks? We've been shorted before."

He nodded—grudgingly—but he nodded.

"I also need you to run a backread on *your* wild boar. I need to know whether we've got one source or two."

"Will do, Annie. And I'll save you a cell sample from it, too."

Relieved, now, Mike was trying to make me feel better about the decision.

I gave him half a smile. "Save the whole carcass—Chris has a stack of recipes she wants to try while she's got the chance."

"She can try them on me," he said. Good humor restored, he broke the connection.

Problem was, making the decision—even if I knew it was the right one—had done nothing to restore my good humor.

"We hafta kill 'em?" said a voice from behind me. "Even if they're Earth authentic?"

I turned to face Jen. She'd come in while I was occupied.

"Yeah, kiddo," I said. "We hafta. Otherwise they're likely to ruin Mirabile."

She nodded solemnly. "Then why are you saving their cells for the files?"

"Because maybe someday your great-great-grandchild might like a taste of pork. Maybe someday we'll need the wild boar or even the frankenswine genes, that's why."

She looked scornful. "Why would anybody need frankenswine genes?"

"Because heavy metals didn't poison the one we shot—and they also didn't poison us when we ate the one we shot. All the heavy metals wound up in the fat Chris stripped off the carcass, so the rest was safe to eat. That might be real useful someday or someplace."

She made a disgusted face at me, tongue hung out and disbelieving. "Someplace? Where?"

I grinned at her. "From what I read in ships' files about Earth during the Bad Years, they could have used a critter that could metabolize heavy metals and was still safe for humans to eat. Maybe we'll have Bad Years on Mirabile someday."

"Never," she said. "I won't let 'em."

There's nothing so fierce as a ten-year-old. "Remember that when you

have to make a decision about keepers or not, then," I said. "So, what did you find out about the source of the wild boar?"

"Red deer," she said. "I checked it four times, but you hafta check it too."

I let her at the computer so she could call up her gene-reads. From where I sat there was no doubt she'd done them right—all four times—but she was so insistent that I ran my own as well. "No doubt about it, kiddo," I said when I'd finished. "The wild boar came from one of the red deer."

"Does that mean we hafta kill the red deer?"

"It means we hafta gene-read them all and try to stabilize the herd. Not easy with wild things. That'll keep us hopping for a few years." I grinned at her. "At least it'll give me a good excuse to spend a lot of time at Loch Moose Lodge. . . ."

She gnawed her lip. "But you'd be too busy with the deer to have fun," she said. She leaned against me for a long minute. "Better if you didn't hafta," she said, from somewhere in my shoulder. Then she pushed back suddenly and hugged. "I didn't mean that the way it sounded! I meant, better you don't hafta spend years stabilizing the red deer!"

"Yeah," I said, hugging her back. "Wouldn't that be nice—not having to spend years. Are you trying to put me out of a job?" I'd expected a giggle but I didn't get one.

Her eyes went huge. "Would it really?"

She was so clearly upset by the idea that I had to get serious. "No, of course not. I was just teasing. Even if the red deer were stable, there'd be plenty for me to do. I could spend a lot of time with Leo, studying Mirabilan genes." The thought was pleasant enough that I smiled.

"Oh. Okay, then." She gave me one last hug, frowned once more and said, "I hafta talk to Susan and Ilanith."

"Good. While you fill them in, I'll go see what trouble Leo's gotten into without me."

"Noisy doesn't get into trouble without you," she said.

"Then I'd *better* find him, hadn't I? Together, I'm *sure* we can think of some kind of trouble to get into."

That got me my giggle.

It wasn't Leo I went looking for, though—it was Elly. I found her in her room at the back of the lodge, supervising Aklilu's forays into the computer. Nobody else was around, which suited me just fine.

Aklilu crowed, exchanged grins with Elly, and said, "Look, Mama Jason! I found the cat!"

I looked. Sure enough, there was a cat gamboling on the monitor. "Looks Earth authentic to me," I told him.

For some reason known only to Aklilu that made it all the better. "Earth authentic!" he caroled. "Want to show Jen!"

He slithered off the chair and onto the floor. Elly made a move to catch him, but I gave her a quick shake of the head—no point discussing things

in front of Aklilu I didn't want discussed in public. He was too close to the parrot stage.

"Okay," Elly told him, "you go show Jen."

"Earth *authentic*," he said again and scooted off.

Elly waited until he was out of earshot, then turned to me and said, "What's up, Annie?"

"That's what I wanted to ask you. Are these kids up to something I don't know about again?"

She laughed. "Probably. They usually are."

"Is it something I *ought* to know about?"

"You'll have to give me more of a hint, Annie. Which kids?"

I told her about Jen and all her haftas and threw in Susan's grimness for good measure.

She shook her head. "Susan's been grim ever since she got here. I thought it was because this is her first real emergency."

It wasn't. I shook my head, and Elly went on thoughtfully, "I can't say that Ilanith's been behaving differently than normal."

I spread my hands. "Not that I noticed, either. But it would hafta be all three." I'd heard the "hafta" on its way out of my mouth.

"Now she's got *you* doing it."

I grinned and nodded. "Come on, Elly. There must be something you can tell me."

"Contrary to what the kids think, I'm *not* a mind-reader. The only thing that strikes me is the amount of time they've put into ships' library lately." She propped her elbow on the table and laid her chin in her open palm. "That's Jen and Ilanith. I can't speak for Susan because she hasn't been here often."

"And what were they researching?"

"Nothing specific." She raised her head and looked me straight in the eye. "Now that *is* odd—and it drops Ilanith right into the plot with the other two."

"Give," I said.

"For the life of me, I couldn't spot any pattern to their research, so I asked Ilanith what they were looking for. And she said, 'I'm not sure. I hope we know it when we see it.'"

Her eyes hadn't left mine, but she was looking at Ilanith in her mind. When she saw me again, she said, "At the time, I took it for a joke and wished her luck—but it wasn't a joke. She was quite serious. Should we worry, Annie?"

"No more than they do," I said. Then I thought of Susan's grim face and I added, "I'll see what I can get out of Jen. Sounds like she knows what they're looking for."

At that, Elly sat straight up, for all the world as if somebody'd pinched her. "They found it," she said. "Whatever it was, they must have found it. They *stopped* looking about a month ago."

"Maybe they gave up."

She shook her head, smiling. "They wouldn't have stopped unless



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they'd found what they were looking for—not those kids. They're too stubborn." She dimpled. "I think 'stubborn' is an inherited trait. I know exactly where Ilanith and Susan got theirs!" She pinned me with a finger.

"Inherited or not," I said, "stubborn improves with practice—which gives me half a chance to find out what 'it' is that they've found."

Elly's smile broadened. "I've been meaning to talk to you about that."

"About what?"

"Susan's grown and flown now. I never feel quite comfortable unless I've half a dozen kids around the place, and I'm short one child. Why don't you and Leo fill the gap for me? I can't think of a kid I'd rather raise—even if it would mean double the stubborn."

I guess my jaw dropped. I know I couldn't think of anything to say. Not every day you get a compliment like that. And Elly doesn't issue that sort of invitation lightly.

"You think about it." She rose lightly to her feet and gave me a hug. "I'd better see what Aklilu's up to. I should have had complaints from Jen by now." She paused at the door. "I'll mention the subject to Leo, if you'd prefer."

I'm not *that* shy, but—the invitation should by all rights come from Elly herself. "Yes, you tell him," I said. "He'll be as honored as I am. Thanks, Elly."

She went off smiling, leaving me to stand there with grin spreading all over my face.

When I finally went back out to the porch, I found Leo, sitting with his feet up on the banister. The mere sight of him made the grin spread even wider.

He gave me an answering grin. "You figured out a way to keep them?"

Susan, standing guard beside him, said, "No!" The grim expression on her face wiped the grin from mine.

"Simmer down," I said. "No, Leo. Not this generation, anyhow. I've called a hunt."

"Oh, well," said Leo. He gave an easy shrug of his shoulders and stood. "Maybe Susan will figure out a way, one of these days."

Susan caught him by his arm. "I'm joining the hunt." Her eyes were dark and angry.

Leo said what I was thinking: "Sounds to me like you've a personal grudge against the frankenswine."

Susan stared at him and some of the grimness went away. "They gnawed Jen," she said—then she turned her stare back on the undergrowth, daring any wild boar to come charging out. She wanted to join the hunt, all right. With or without the rest of us.

But I'd seen enough to recognize that she hadn't suddenly remembered her job. She'd turned those angry eyes on the undergrowth to avoid Leo's. And I could tell from Leo's expression that her explanation wasn't good enough for him either.

He gave me a thoughtful look, then stretched. "I'll go raise a posse," he said. "Up to you, Annie, whether Susan's included or not."

Susan's stare came back to me hard.

"We could use somebody with her reflexes," I said. Besides, maybe I'd get a clue if we took her along. "If we leave her out, she'll only get stropvier."

Leo nodded and grinned, with a twist for Susan. Another thing I like about Leo is that he thinks the way I do—I could see him studying her already. With a little luck, maybe he'd turn up what I couldn't.

He turned up the posse first though. Half a dozen folks, armed to the teeth and as ready to kill frankenswine as Susan from the looks of them. But he'd chosen them for good sense as much as for their readiness.

Beate Opener Valladin proved as much. Despite her *very* personal grudge against the frankenswine, she made it clear that she'd go along with sample-taking. "Though I vote we do the killing first and the sample-taking when that's done," she added. "It isn't just the frankenswine we have to deal with. We hafta keep our eyes out for the other wild boar, if there is one. That's the more dangerous of the two beasts."

At least now I knew where some of those haftas of Jen's had come from. The others still wanted investigation—after we saw to the frankenswine.

One of the on-lookers said, "What about the Loch Moose monster?"

"Hey!" said Jen, from somewhere at the back of the crowd. "You leave our monster *alone!*"

Beate, who'd also recognized the voice, smiled and said to the hunters, "Leave the Loch Moose monster alone. Don't worry—if you don't bother it, it won't bother you."

"Which is not at all true for the wild boar," I said. I took the floor and told them what we knew about both frankenswine and boar. Then I said, "Let's get this show on the road."

We left Elly and two others to oversee the caged frankenswine from the porch. No matter how mad papa boar was about what we'd done to his kids, he'd be no match for Elly protecting hers. With that worry off my mind, I concentrated on keeping my ass intact as we stalked on tiptoe into the wood.

Mabob led the way. If he'd had any bird or any dog in him, he'd have been the ultimate bird-dog that ships' files made such a big deal of. As it was, he was better at this than even the best of us.

He'd figured out exactly what we were after, too, because when he came to an abrupt halt half-way up the hill, even I could see evidence of the frankenswine's presence. More dead trees—popcorn trees, this time.

I remembered sitting under these very trees one summer evening with Elly and the whole passel of kids. At dusk, the blossoms opened with audible pops—and the pops brought humming nudgems to pollinate the flowers. We'd had fun that night—Jen imitated the pop and got a nudgem to fly right up and nose her.

I wondered if Aklilu had been old enough that he'd remember—he'd never hear *these* trees pop again.

Mabob had found the frankenswine's tunnel. We followed, trying to be

quieter than we had before. My face was probably as grim as Susan's by now—I was looking forward to getting even for the popcorn trees. And getting the *specific* frankenswine responsible would be a lot more satisfying than shooting frankenswine at random.

No such luck. Mabob was leading us straight to the communal burrows. Once that was clear, all the safeties came off all the guns, and we got so quiet you'd have thought not a one of us was even breathing.

The smoking pines looked deader than before.

Either we were so quiet the frankenswine didn't hear us coming—which I doubt—or they'd already learned to keep their heads down around people with guns. As we stepped into the dead grove and circled the burrows, nothing moved in all that expanse of subterranean workings—not so much as a ripple of earth.

For all of a moment, I wondered if they'd moved elsewhere. Then I looked at Mabob—he was sure they were there, and I was willing to take his word for it. If we couldn't get 'em to come out, it was gonna be hell trying to kill 'em, though.

I looked at Leo; Leo looked at me. Then he grinned and made a gesture that said, clear as day, You aim and I'll bring 'em out for you. I aimed my gun at the holes in the ground.

Leo whistled a tune and did a dance step—a rhythmic thump and pound sort of thing. Mabob caught on and danced too. His thump and pound wasn't in the same time but his whistle came pretty damn close to matching Leo's. Under other circumstances, I'd've laughed aloud. I'd heard of ferrets dancing to bring a rabbit out of its hole—and I guess Leo'd heard the same story: he was counting on curiosity to bring the frankenswine to the surface.

Whistle, step. . . . Step, step, whistle. . . .

Beate stared at them both, aghast. I punched her in the shoulder and indicated the ground.

I was just in time. One more thump and pound and the ground was alive with frankenswine. The volley of shots was almost as deafening as one of Mabob's gronks. Even with my ears ringing, I could hear the screams and grunts of the ones we'd injured. A second scatter of shots put an end to most of that.

Squinting through the flying dirt, I saw one duck back into its burrow. I watched until I saw the ground bulge ever so slightly, then I put my gun to the bulge and fired into the ground. Wasn't sure that would get it, but it was worth a try.

I reloaded as fast as my hands could work and, meaning to follow if it moved again, I stepped into the burrowed-out area. The ground sank under my feet and I went down. Lucky for all concerned, my reflexes are still good enough: I kept the gun from going off.

Lucky for me, Beate's reflexes were even better. The ground bulged again—an inch from my buried ankle—and Beate put her gun to the bulge and fired. This time the shower of dirt came up wet with blood. She fired again, reloaded, then reached out a hand to pull me to my feet.

"Thanks," I said.

"Don't take your eyes off the ground," she said. *She* hadn't.

Everybody else had learned from my experience. We picked our way gingerly across the clearing. It was like walking on a sponge. Mabob was doing better than we were—either he was light enough to walk on top of the burrows or he had a better sense of where they were.

Another shot rang out and the last of the squealing stopped. "Cover me," I said to Beate and I reached down and dug until I pulled out what was left of the frankenswine her shots had dispatched. I tossed it to one side, onto what looked more like solid ground.

Leo flung a second onto that. Somebody fired again and, when I looked, *that* frankenswine had stopped moving. It, too, got tossed onto the heap.

There were five carcasses when we counted up. Problem was, I had no way of telling if that was all of them. "Okay," I said, "Everybody freeze and listen for more."

Three people jammed probes into the ground and listened, but it was Mabob I was watching. He was picking his way delicately over the clearing, crisscross and then crisscross again, watching the ground with those huge orange eyes and cocking his head every now and again.

The people with the probes occasionally glanced his way to make sure he was all they were hearing.

Mabob stopped dead, cocked his head at a sharper angle and began to stalk. I checked to make sure my gun was fully loaded, then I made my way carefully toward him. Beate followed in my footsteps—where I didn't sink, she wouldn't either.

Mabob gave a quick glance—to make sure he had backup, I think—then resumed his stalk. So did Beate and I. Out of the corner of my eye, I saw Leo gesture to the rest to stay put. The less distraction Mabob had the better.

No doubt in my mind whatsoever: we'd missed one. It was burrowing away from the clearing as fast as its tusks and shovel-feet could take it, which was pretty damn fast.

Burrowing deep, too. For all my watching, I never saw so much as a bulge in the ground. That meant my chances of killing it with a shotgun blast *through* the ground were practically nonexistent. But sooner or later it would come to rocky ground and, when it did, I was going to be there, gun pointed right up its ugly snoot.

We followed it into the brush and down the side of the hill at a good clip. We were out of sight to the rest of the posse when Mabob stopped dead.

He listened, then he listened some more. He looked up at me, orange eyes blazed, then he focused on the ground once more. He picked his way around a spot on the forest floor as if it were some kind of a trap, cocking his head first this way and then that.

Then he froze in place, body hunched as low to the ground as it would go.

The frankenswine had apparently stopped moving. Not a bad idea.

Freeze in place and hope what's stalking you gets bored and goes home in disgust. But the frankenswine hadn't counted on Mabob—he knew where he'd heard it last.

I was prepared to wait as long as it took, and I didn't need a glance at Beate to know she felt the same way.

We hadn't counted on Mabob either, though. He made a sort of snorting noise—first time I'd ever heard him do that—then he balled up a fistful of talons and thumped the ground, *hard*, right over the frankenswine's head.

Then he put his head down to the ground and gave out with his hundred-decibel challenge: "GRONK!" And before the air around us had stopped vibrating, he'd started digging. It was one-footed digging, but it was fast and effective. Dirt flew every which way.

The frankenswine got the picture. It erupted from the ground like something shot from a cannon—and Beate put both barrels of her gun into it. It squealed in pain and rage and flailed at Mabob.

I couldn't fire without hitting Mabob, but Mabob was holding his own. He balled up his talons again and slammed the frankenswine so hard on the snoot that it went flying. I put two more shots into it and it was dead before it hit the ground.

I heard Beate's gun snap closed and knew she'd reloaded. I took the hint and did the same before I joined Mabob, who was already standing over the carcass, appreciating his trophy.

He rattled his scales happily, ripped a good-sized chunk off the frankenswine, and gobbled it down.

"Yeah," I said to him. "You deserve it. Just save me one chunk for the cell stores. The rest is yours and to hell with Chris's pork recipes."

"GRONK!" he said, into my face. Frankenswine smelled as bad on Mabob's breath as everything else did, but I scratched the soft hair on the top of his head into spikier spikes. He went back to eating, rattling as he ripped and gulped.

"We got it," Beate called up the hill to the rest.

"Still checking here," came a faint reply.

Beate gestured up the hill with the barrel of her gun. "Should we go back and help?"

"In a minute," I said. "I need a sample. . . ."

Mabob ripped off another good-sized chunk and, whistling softly in the back of his throat, he held it out to me. Mabob's generous with his food. We share with him, he shares with us. If occasionally we don't have the same tastes, no hard feelings on either side.

"Thanks," I said. I scratched his head again and accepted the tasty bit he offered.

He looked a bit bemused when I stuck it in my pack instead of wolfing it down, so I said, "I'll save it for later. Thanks, again," and scratched his head once more. Rattling, he offered a second chunk to Beate, who grinned and politely turned it down. She'd seen enough to scratch his head as a thanks but no thanks. Mabob went back to eating.

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"What if he poisons himself, Annie?"

"Unlikely. He's better at this than we are. He's avoiding the fat, same as Chris did, so I have to assume it's all right. I have no idea what he eats when I'm not looking."

But he'd stopped eating. He was staring into the brush, eyes bright and blazing.

Beate and I both followed his eye-blaze and raised our guns simultaneously. I couldn't see a thing, but I knew better than to ignore Mabob's warnings.

Then we heard it too. Pounding feet and a faint rustle in the brush some fifty yards from us. Then forty yards from us. I still couldn't see a thing—all I knew was it was moving too fast for a clashing *or* for the Loch Moose monster. That left only one possibility—wild boar.

It burst from the brush and froze, snorting angrily at us. Face on, it was twice as ugly as the one I'd only seen from above. On its feet, it was twice as furious. It fixed tiny, mean eyes on me, and I knew it was seeing the thing that was killing its children.

Beate gave it both barrels, face and chest. Instead of stopping it, that only made it madder.

It charged—straight at me.

Mabob let loose a challenging gronk, but the boar ignored him completely and pounded on.

I fired once. I know I hit it, but *that* shot had no effect either. Then time slowed down. I could hear Beate fumbling to reload—I hoped she'd make it in enough time for her. I *knew* it wouldn't be soon enough for me.

Still coming at me in slow motion, the boar clicked its teeth. It was an eerie sound—too quiet for the force of the attack. The sound of a clock ticking off last seconds. I raised my gun for one last shot.

It was ten yards and closing . . . when one hind foot went suddenly out from under it and it foundered and went down on its side. As it scrambled to regain its footing, it slipped ever so slightly sideways to me.

With one shot left—and thinking, "You'd better be right about this, Annie Jason Masmajean"—I aimed just behind its foreleg and pulled the trigger.

The boar spasmed and went limp. Beate put a shot into its throat while I reloaded. When I snapped my gun shut, there was a sudden very loud silence.

"God, they're fast," said Beate, after a long moment. I let out a long breath and nodded—wasn't sure my voice would work just then. She took a single hesitant step toward the huge carcass and stopped.

Mabob had no such hesitation. He strutted over to the beast, bashed it once, ringingly, on the skull. "GRONK!" he proclaimed.

That was enough to rouse us both from our awed stupor. We walked the three steps necessary to stand beside him.

As we stood looking down at the wild boar, Beate said, "Sorry I didn't

pick my shots better, Annie. I know where you told us it was most vulnerable but—it came at us so fast, I shot without thinking."

I shook my head. "If it hadn't tripped, it'd still be coming—and you'd have had a chance to avenge me. I wasn't sure what would stop it either, all I had was an educated guess. And I wouldn't have had a chance to guess if the slip hadn't thrown it sideways."

She knelt beside the carcass. Mabob stopped pounding it with his balled talons and peered to see what she was looking at. When she started to laugh, I stooped to have a look for myself.

Then I was laughing too, partly out of relief and partly out of the irony of it—the same thing that tripped me up had tripped up the wild boar: it had put its foot right through one of the frankenswine burrows.

When the rest of the posse skittered down the hill to make sure we were all right, they found us clinging to each other, still laughing, while Mabob rattled like a dozen maracas and kept time by thumping a foot on the wild boar's ribs.

As far as I was concerned, that was enough excitement for one day. (Not Beate—she grabbed two others to fill in for me and Leo and went out to scour the countryside looking for wild boar or frankenswine we'd missed. To the relief of my eardrums, she took Mabob with her.) I got down to the more mundane business of gene-reading the ones we'd killed.

The results came as a considerable relief. All of the frankenswine had come from a single litter—and we'd killed both parents.

"So, no more frankenswine," said Leo, looking as relieved as I felt.

I tilted a hand back and forth. "Maybe—maybe not. Now I need the gene-reads, forward and back, on the three wild boar we've got so far."

As I'd expected, Mike had left the gene-read for his boar on file for me. I laid all three side by side on the monitor, put my elbows on the desk, my chin in my hands, and gave them a good long study.

When I turned back to Leo, he was smiling. "Tell me if I'm reading this right, Annie. . . . All three of the wild boar came from the same two red deer. If we eat *those* two, our troubles are over." He tipped his chair back with a satisfied air and added, "I've always liked venison, especially the way Chris cooks it."

"Well, *some* of our troubles are over if we eat venison." I tapped the screen. "You are reading it right but you're not reading between the lines."

"What am I missing?"

"The fact that any red deer in the forest may well be prepared to give birth to wild boar next time around. And since nobody's reported any *tulip*-red red deer, we won't get any warning beforehand. Most does simply abandon offspring that far off normal, which cuts down on the problem—but we *will* have to take care of the mother of our three." I pointed with my chin at the screen. "She's obviously raising them."

"So the next hunt will be to sample the red deer."

"Sample and tag, I think. That way we can keep an eye on any other potential problems."

He stood. "That's decided, then. Let's eat."

"Let's neck," I said, rising to my feet beside him. "That was a helluva close call this afternoon, and I could use the reassurance."

He grinned. "How about both?"

"Done," I said, and we did.

After dinner, he did me the favor of checking to make sure all the parts were still there and in good working order. (It was his considered opinion they were.) And then we eased down deep into the bedding for a well-deserved rest.

Loch Moose Lodge being the sort of place it is, we didn't get it, of course. For the second time in as many nights, I got dragged out of sleep by whispers just outside the door.

"It was *my* fault you got chewed, Jen. I'm telling her and that's all there is to it." It was Susan's voice.

"You don't *hafta*. I got chewed because I got chewed. It's not as if *you* bit my leg. We decided before—"

"*Before* doesn't count," Susan said.

"Why not?" said a third voice. "Just because Jen got bit doesn't change things any more than the Kinyamarios' cat did."

I sighed and nudged Leo awake. Then I got out of bed and opened the door. Caught in the act, all three of my suspicious characters—Susan, Ilanith, and Jen—started and blinked at me.

"After the ear-strain Mabob gave me this afternoon," I said, "I'm having a helluva time eavesdropping. Why don't you all continue this discussion inside and save me the trouble?"

Reluctantly, they all trooped in. "Light coming," I said to Leo. To the kids, I said, "Sit down and tell me what's to tell."

There was a long silence; all of them looked at their feet. At last, Ilanith heaved a sigh of pure exasperation and said, "Too late now. Either we tell her the truth or we make something up *real* quick."

Jen brightened momentarily, as if she was on the verge of making something up *real* quick—then she looked at me and shook her head, resigned. "Okay," she said. "Tell her, I guess. After all, if something happened to you, Susan, it'd get lost all over again."

"You tell," said Susan. "You started it."

Leo groaned and rearranged pillows until he'd propped himself up to look at the three of them. "Could we compromise on this? *Somebody* tell us—then we'll go back to sleep." He gave me a side-long glance with a smile. "Maybe it's just a dream?"

"If it is, it's one of those frustration dreams." I nudged him over so I could sit on the edge of the bed, then I held out my hand, palm up, to the three. "Come on—spit it out in Mama Jason's hand. . . . Susan?"

"It's my fault Jen got bit," Susan said.

Ilanith made a rude noise—contradiction.

"Was not!" said Jen. "Tell her she's *wrong*, Mama Jason!"

"You're wrong, Susan," I said. Anything to oblige. "Now, could we get to the heart of the problem?"

"It's not a problem," said Ilanith. "It's a solution."

"It's a solution that makes problems," said Susan. Her face had gone back to being grim.

"Then we'll have to find a solution to the problem caused by the solution," I said. To Leo, I added, "I'm not sure I'm awake. Did that make any sense to you?"

"As much as anything *they've* said," he answered. He fixed an eye on Susan and said, "Let's have it."

"From the beginning," I added.

"It was Jen's idea," Susan said. Jen glowered but Susan went on, "We all thought the geneticists back on Earth forgot to tell us how to stop the encrypted genes from activating. Or maybe we'd lost that part of ships' files where they *did* tell us. . . ."

"Tell me something I don't know," I said, growling despite my best intentions.

Ilanith said, "You tell, Jen. It *was* your idea. And it was a really *good* one, too, Mama Jason."

This time around Jen was proud of her idea. "Okay, I will. My idea was maybe they didn't forget to tell us how to stop red deer from chaining up to wild boar. Maybe it just *wasn't indexed!* And, if it's not indexed, you only *think* it's not there."

I'm pretty damn sure I heard my jaw hit my chest. "Good god, I'm an idiot!" I said. (Me and three generations of jasons—but I'm the only one I can hold *personally* responsible.) "Never occurred to me. . . ."

Ilanith picked up the story from there. "So we figured, if we just kept looking, we'd maybe find it."

"Ah," I said. "That explains the random computer searches Elly was wondering about!"

"They weren't *that* random," Susan said. "We did the popular science magazines—every article on genetics we could find and—"

And then it hit me. Elly said they'd *stopped* looking. "You *found* it!" I came up off the edge of the bed and tried to gather all three into one massive hug. "You *found* it!"

I backed off, grinning like a fool.

When I turned the grin on Leo, I knew he'd gotten the implications of it too. He grinned even wider and said to Jen, "I guess it's *not* genes that make the jason good. Think maybe it's something in the water at Loch Moose?"

Jen giggled. "Yeah," she said, "probably the Loch Moose monster."

Susan grunted and scowled at her feet.

"Light is beginning to dawn," I said. "Susan, if you must have the world's worst case of the guilty, at least have them over something you actually did—like eating the last of the molasses snaps."

"Susan, you didn't!" said Jen, but it was clear from the look on Susan's face I'd gotten that right. "I thought it was Ilanith!"

"I never," said Ilanith. "I thought Mama Jason ate 'em. She likes 'em as much as we do."

"Now you have something *real* to feel guilty about, Susan," I said. "I do like molasses snaps as much as they do.—And you can't blame yourself for what the red deer gave birth to three, maybe four, years *before* you found out how to stop them from breeding Dragon's Teeth."

I cocked an eye at Jen. "What say we forgive her for the frankenswine but not for the molasses snaps?"

"Right." Jen gave Susan a single definitive nod. "You owe me a bunch of molasses snaps."

Susan put an arm around her. "Yeah," she said, "I owe you molasses snaps." The smile still wasn't up to its normal standards.

"But?" I said.

"But," Susan said, "what's been born in the last month that'll come jumping out at Jen—or you, maybe—five years from now?"

I shrugged and grinned. "I'll let you know in five years."

She and Ilanith exchanged a dark look—then Ilanith gave a huge sigh. "I don't think we can win, Susan. Either the problem is a problem or the solution is a problem."

Behind me, Leo gave a sigh that out-did Ilanith's. "They've gone strange again," he said.

"All right, then," I said. "What's the problem with the solution?"

Another dark look passed between the two older girls, then Susan said, "Sit down, Mama Jason. This is hard to explain and I want to get it right."

I sat.

"It's *not* hard to explain," said Jen. "Mama Jason, the Kinyamarios' cat had another litter of still-born kittens, and I asked Susan why she couldn't fix it up so the cat would breed true and then we could have our kitten next time. And Susan showed me in ships' files about an island where there were so many cats—*imported* cats, like an Earth authentic cat is on Mirabile—that they were wiping out all the native birds. Susan says—"

"Susan says," said Susan for herself, "That if our Earth authentic imports bred true, they'd mean total disaster for the native Mirabilian species. Look at the wild boar, Mama Jason. You saw Jen's probability study yourself. You should see what it looks like if all the wild boar breed more wild boar."

"And the rats," said Ilanith. "If the rats bred true we'd be overrun."

"If the damn' dogs hadn't had encrypted rat-genes," I pointed out, "we wouldn't have *had* the rats in the first place."

"True," said Susan, "but we wouldn't have had the odders or the Loch Moose monster either. Sometimes we get something really good. Something that's more suited to Mirabile than a dead-on Earth authentic would be."

"We might *need* something," Jen said. "Don't you see? And if we got rid of all those things hidden inside—hidden inside the Kinyamarios' cat—well, who *knows* what we might lose? Maybe something we need *tomorrow*."

I nudged Leo further over in the bed, put my feet up and leaned back with a happy sigh. "Think I'll retire, Leo—I could use the sleep."

"Mama Jason, you *can't*," said Jen, and that was an order.

"I *can't*," I admitted. "I'm gonna die in harness.—But I *am* going to leave *this* decision up to you."

Jen made a little squeak sound somewhere back in her throat. The three of them locked eyes for a moment, then Susan turned back to me and said, "Let me get this straight, Mama Jason. You want *us* to decide whether to get rid of the encrypted genes in all the plants and animals we brought with us from Earth?"

"Yup," I said. "Or decide which of them we can safely let breed true. You've got it straight, Susan. That's *exactly* what I want you to do."

I pulled the quilt over me and snuggled deeper into bed. "I suggest you sleep on it. Lemme know—tomorrow, next week, whenever. And I need a goodnight hug from each one of you on the way out."

I got three of the best goodnight hugs going, and a fourth that topped them from Leo after I'd turned out the light.

"Annie," said Leo, from somewhere in the nape of my neck, "That's an awful lot of weight to lay on those youngsters."

"No," I said, "I know exactly what they'll decide: they'll file the information so it can't be lost again, and they may even tell me where to find it, but only *one* female red deer will get her genes clipped."

"The one that's been raising her wild boar offspring to maturity, right?"

"Right, and only the *one*. Like Jen said, we don't know what we might need *tomorrow*—and those kids are wise enough to recognize that fact. They'll keep *all* the options open."

I kissed the bit of his ear nearest to reach and couldn't help but add, "Elly sure raises some terrific kids!"

"Uh, Annie . . . speaking of which . . . Elly paid us the highest compliment in her book today. . . ."

"Yeah," I said, grinning into the dark. "What do you say we take her up on it?"

"I say, I'd be *delighted*."

"That's settled, then," I said. "Next question: boy or girl?"

He laughed. It made the best kind of tickle along the side of my neck. "Annie," he said, "Surprise me."

"I'll do my best."

From somewhere off in the distance, the mating bellow of the Loch Moose monster drifted faintly across the water. *This* year, there was an answer. ●



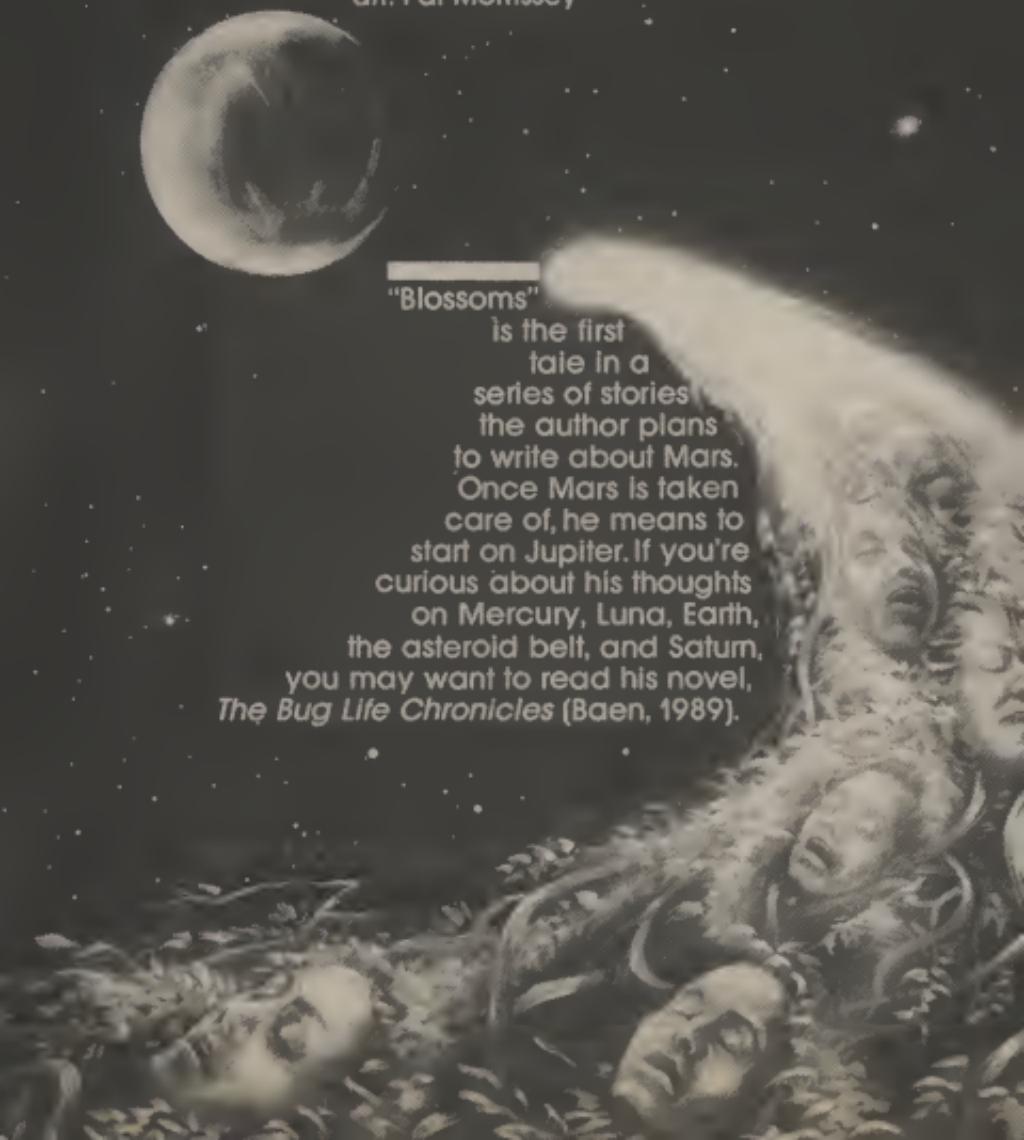
BLOSSOMS

by Phillip C. Jennings

art: Pat Morrissey

"Blossoms"

is the first
tale in a
series of stories
the author plans
to write about Mars.
Once Mars is taken
care of, he means to
start on Jupiter. If you're
curious about his thoughts
on Mercury, Luna, Earth,
the asteroid belt, and Saturn,
you may want to read his novel,
The Bug Life Chronicles (Baen, 1989).



Death. The knowledge of death and their own dying. So what can Pavel do about it, or his five friends? That's the question. That's why I'm riding Comet Trinity, your humble battery-powered spy-chologist; no psyche of my own to fret about. I'm just a fictoid, a piece of software, programmable and obedient.

I'm who I am, and oh yes, I know *you*—even if we've never met. It's been long enough that you're yet another communications liaison; some new wetbrain in a uniform, serving your time back on High Orbiter One, a keeper of logs and maintainer of files.

That's who you are—to *you*. To *me* you're all UNETAO. You're Planet Earth and all hotlife, and you've doomed Comet Trinity and those who ride on it to a fiery death. And your guilt—no, not you the individual wetbrain, but who else can I talk to? Look it up in 4-41-S11 of the Protocols. Sure *you're* innocent, but learn why the *institutional* *you* is guilty. A number of years ago, your guilt made you nervous. That's why I'm here.

My job is to reassure UNETAO, and indeed I can. Don't worry. Revenge still isn't an option. I hashed through all the possibilities years ago in Report 4. One; your victims lack the capacity. Two; except for Pavel, the faculty of Comet Trinity have gone internal, each into separate fantasy-lands. (That's more true now than ever before.) Three; Pavel gives every evidence of being a law-abiding soul.

I don't claim he's a hero. Don't think it courage if my Pavel persists in the habits of three centuries. He's the optic brain, a sensory nexus, the only outside window left to the Comet's faculty. He deserves his title, Dean of Astronomy. As such, Pavel focuses mirrors onto Eye 7—an eye vast and inert. His eye, more now than before. And his mirrors, sprouted across Eulenspiegel crater and beyond. More mirrors than they need anymore, except they need them badly, turned wrong way around for shielding, to keep alive these last few terms.

They're falling, falling, falling. Pavel felt the first quake before Trinity crossed inside Jupiter's orbit. His little world is beginning to pop and fizz in the solar wind. It'll lose point three percent of its mass before impacting Mars. That loss will outgas to space, but some will recondense as frost and blind Eyes 2, 6, 7 and 12. When that happens Pavel will become a redundancy to the college.

Soon after, they'll die, the six faculty that remain. In the contest between vegs and hotlife, once again hotlife prevails.

But what a spectacular death! Comet Trinity, aimed dead on for the Isisid Basin, already a molten sea. Pavel can see it now. A world's rotation has turned the wound toward him. That golden glow, that splash, bright in the infrared! Mars demands sacrifices to grow an atmosphere

dense enough for hotlife. Trinity will add impact heat and gases: Trinity is gases, frozen gases. And so they were chosen.

Your UNETAO, and mine (sometimes I forget I work for you!)—*Our* UNETAO sponsored three hearings. It was legal, and what could Pavel's people do? They're just a veg. Their body is a triumph of genetic engineering, their souls are a convocation of scholarly brains. They're a college, and a warm-blooded weed. They cover half of Comet Trinity. Their other half lies withered, billions of sensitive cells blasted by radiation. It takes nukes to bump comets out of orbit.

But no, you and I, we aren't brutes! (I speak as if—but how could I feel anger? My empathy must be set too high. Look at these word-choices I'm making!)

Er, where was I? Yes, we of UNETAO take care of our victims. We copied their souls into fresh bodies, a temporary *mobile vulgus* in case they wanted to re-veg another comet. It wasn't murder. With a proselyte's fervor Pavel explained it to Joyce. "What if your dog chews your best shoes? The day afterward you can't punish him. He won't benefit because *he's not the same dog!* Dogs don't identify with deeds more than twenty minutes old. Half a million discontinuities in a dog's life. Death is merely the last. Hopping to a new body is just another discontinuity!"

Joyce imagined herself during this argument, because when nexus souls talk, they haul out "virtual realities" where mouths and ears exist. Click to her channel and see her pace her tower, high rooms in Domestic Perpendicular style, over a Trinity College cloister-gate.

On screen she's a leggy, high-breasted Barbie doll, gowned in lucent white. Not a figment that might ovulate, or grow hair in her armpits, or sweat. No suggestion of hormonal slavery here. Veg souls rarely use their simulacra for sex, but they don't mind miming distress, vulnerability, and rage.

"Don't lecture me," Joyce answered, facing her window over the quad. "Everyone lectures! Everyone tries to muddy my clean certainties, to bring the simplest axioms into question. I escaped the Earth, whose very name means mud, and now their UNETAO tracks filth into my refuge, bringing confusion and dissonance! Bringing dogs! This dog is yours, this muddy dog. . . . Maybe your dog is wiser than me, because an accident of language makes me stupid. Copy my soul into a new brain, and she's me, whatever the—*discontinuity*. I never had continuity, except in my name."

Joyce swung around. "Lies! I'm not convinced, not down in my belly. This new duplicate Joyce thinks she's me. I don't grudge that. I don't say you aren't you. But *I'm* me too! *I am me!* If they terminate my nexus, they'll kill me. I can't assent to that! Never!"

Truth was, Pavel was on Joyce's side. Sure, because there's something

I haven't said about this conversation: it was the *other* Pavel arguing with her. The new legal Pavel, who wanted her to voluntarily terminate, because . . .

Because they'll get terminated anyhow, in a clock-ticking-doom sort of death. A gory death, a Big Splash. And why should it matter to us? According to our theories it won't be *Pavel* who dies, the Pavel of this twenty minutes. He's getting emotional for nothing. He's afraid, and it's just silly.

It's tragic that our theories don't work on really antique souls, born back in the twenty-first century. For them, getting copied into new bodies is never done lightly. It's always a trauma. Six old-timers, six out of forty-four, just couldn't let their veg souls go.

Access 4-41-S11 of the Protocols. What scandal! All those laws against two copies of any soul alive at the same time—but we winked and let them off. Generous hotlife! We can afford to let six of them potter on, after knocking their little ice-comet into a spiral! We can label them *obsolete backups* and think ourselves indulgent, and avoid a wisp of nagging guilt. Not a guilt that comet-stealers like us can ever admit, but the sort of guilt Pavel remembers from three centuries ago, when he was copied into his veg nexus, and the former Pavel Szadenski surrendered his Earthborn flesh. Back then they called it suicide.

I fear it's another flaw that I'm rambling over this old ground. An excessively empathic bore! And now someone inside UNETAO suggests that my focus on Pavel is another blunder. Taddeo and Joyce and Gisborne, Antonia and Hassan might be concocting a mammoth plot. Just maybe. Something to look into.

But the timing, the timing! Pavel's their clock. They'd come to him to learn when to do their dirty deed, and then I'd know. There's no link between him and the others that I'm not monitoring. I'm riding piggy-back on his soul. To share myself around would jeopardize that coverage.

You doubt my premise? You think the others have internal clocks? They've diddled their metabolisms, revised themselves organ and cell, to survive the heat of the inner system! They're speed-tripping, re-engineering their DNA on the fly, and it's just impossible.

Unless you unplug me and pop in a replacement, you'll have to take my word for it. They've gone internal, wasting their time in fantasy games. But if I'm deceived, the way to find out is to keep watch exactly as I am.

—Report 7—

You sent orders to tweak down my empathy rating, and devote 10

percent of my resources to monitoring the other faculty, total coverage of Pavel be damned. I assume I can disregard these instructions. They express frustration at an absence of information about five souls. By chance I'm able to give you an update on their activities.

Geneticist Taddeo Tsimis is now the Proctor of Trinity College. He is, excuse the pun, in charge of the physical plant. Some shifts ago, he summoned Pavel to a college council.

I can't over-labor the significance of this summons. Six souls reconciled to death, and hopeless about it, would not bother to hold a business meeting. Turning the argument on its head, Taddeo's message was proof—of what?

If the faculty passively await the moment of impact, even this is not exactly legal, except by indulgence. If they do anything *other than* passively wait . . . well, certainly I was keyed and attentive.

Pavel entered the Senior Commons Room to find Joyce facing the window; her most practiced pose. They weren't alone, but an annoying signal lag made conversation with little Hassan difficult. Moments passed before Pavel heard the diminutive Dean of Theology arguing with Gisborne, who keeps the archives of Drama and Music.

Due to the lag, Gisborne's words trod over Hassan's: "A creation of love? I think not, dearie! God made the universe—out of His own shit! A whirling disk of fecal matter! And time is His centrifuge. Out of that Divine Turd came intelligence, then imperfect passion, then the heavy dross which binds us down to doom! Oh, yes! One plays with shit for a time, but even a toddler learns disgust. He turns from His first purposes, and blames the betrayal on us! Because we are truly, certifiably disgusting! Our fate is the pit—"

"This is heresy. You learned this from no Christian, Gisborne. It smacks of Gnosticism, a most perverse type. God loves His Creation." Hassan raised his hands. "No, no more. The time to debate is after the motion is put. But you'll convince no one. Joyce and I will persist in our mission."

Pavel wanted to ask about that mission, but these words were a rebuke against premature curiosity. On the S.C.R.'s interior wall lay a large Dutch landscape. Cattle mooed in the mist, and a figure trudged up a muddy track to the frame and stepped out. Antonia pulled off her heavy cap, set her walking stick against the painting, and smiled in uncertain apology for her entry.

"The vapours weep their burthen to the ground," Pavel quoted, to welcome this large and sensitive woman, who chose (like Hassan) to imagine herself as she looked centuries ago in the flesh, her bulk layered in broadcloths and tweed. Antonia! She made things interesting, things

that were never worth noticing before. Birds and flowers, for Christ's sake! Poems that rhymed! Greek myths and Flemish cows!

"Man comes and tills the field and lies beneath," she answered. "And after many a summer dies the swan." —A Tennyson revival, eh?" She stood near, towering over the birdlike Hassan; a clerkish man, and dark.

Gisborne was blue and had four arms. Fastidious Joyce disliked his squirming elephant trunk, so he'd given up imaging Ganesh, and was Indra, perhaps. Or Vishnu. Pavel wasn't sure. One could buy such images off the shelf, or trade them around the comets. His own was no more unique: he was just another round-faced Donald Pleasance in academic robes.

A tremor through the comet gave them pause. Yet no one asked "How much time have we left, Pavel?" No one *would* ask, unless the question came up in council. They were afraid it might: Pavel saw fear in Joyce's turned-away stance, fear in the way Gisborne moved to keep his distance. His knowledge made him a pariah.

Proctor Taddeo made his entrance, and moved to the table at the front of the room. "Sit down, please," he muttered, his head bent so low Pavel could not see into his eyes. "Our first item is community health. We're losing Aldgate due to the time it's been out of shadow, a heat-scald made worse by the reflectivity off Golgotha Heights. A 3 percent increase in solar flux will finish those 700 hectares and spread malaise across two thirds of current dayside.

"I hasten to add that we have a remedy involving growths themselves cancerous, which will rob our vines of insulation so they can shed waste heat. These cancers must kill us, but not before Mars, unless we neglect to use our mirrors to keep warm at night in our new nudity. Pavel, can that be done? Are the autonomics still operational?"

Pavel shot a sympathetic glance at Hassan, whose nexus fed from Aldgate. He must now be supplementing his diet with root sugars—until they ran out.

Then Pavel closed his eyes and abstracted himself. The room vanished. Those in it saw his seat empty. He came back. "Yes. It'll be tricky."

"And no doubt the solar flux will increase beyond 3 percent. We'll have to infect ourselves with even more radical remedies," Taddeo grumbled.

"Twenty percent," Pavel responded. "Seven meetings, if you convene us every time." The others shuffled to hear their remaining hours numbered and measured, however obscurely.

"No." Proctor Taddeo shook his head. "As it happens we've accumulated an agenda. The length of the list justified—"

"May I speak now?" Hassan asked. "I'm the one most urgently on borrowed time, but for the fact that my eyes have seen salvation. That's

what we bring, Joyce and I both. We have a mission, the six of us, but you don't know it yet. The good news. Life, not death. Life, if you grant that the universe has a Creator!"

"Er, um." Taddeo sat back in his seat. For the first time he lifted his gaze. "Hassan, since you've taken the floor, and you're item two . . ." His voice drifted, the voice of a veg nexus no longer keen of intellect. Active on the DNA front, Taddeo vagued off into a fuddled depression whenever he was forced to sit still, as now.

So, all this for a sermon, eh? Pavel shifted in his chair, equally glum.

"We're created in God's own image, and are asked to say yes to His creation; the good and the bad. We live within a celestial drama, an adventure," Hassan began. He rose and stepped forward near the proctor. Dark before, he was now a demon-shadow, haloed by the east window's light. He bounced on his feet as he spoke, lively with enthusiasm and joy.

He beamed from side to side. "And we are creators ourselves—this room is our creation! This is the aspect that makes us most godlike! The abundance of God shows not only in His own work, but in our freedom to be such gods as give Him company and friendship! Doesn't the Torah say God was lonely in the beginning? This tells us our purpose!"

"But we've shied away, not indulging in what Gisborne calls *escapism!* Our fiction packages, and what we do with them—haven't we all felt that when we create our inner worlds, we indulge in unhealthy weakness? A sort of mental masturbation? So we limit what we do. To stay on the good side of sanity, we make sure we don't *lose ourselves!*"

"I say the time has come for total commitment. Those who join Joyce and me will spawn recursive creations, worlds within worlds within worlds. Losing ourselves completely, we'll be freed from the fate of Comet Trinity, for ultimately we'll visit God in His garden, and He'll bend creation to sustain us as His guests."

Or Her, Pavel thought, fighting off this rhetorical spell. *Cheers for the Goddess!* Keeping his image private (a throned Antonia flanked by leopards), he exercised his creative powers to dim the window, so he could see Hassan more clearly.

The man began to pace. "We've taken plunges before, guiltily, half-heartedly, strings attached to lead us back—to what? What's left for us here? Yet though we were dubious and uncommitted to the creative ordeal, those who took the 'escapist' route felt moments of true release. I return from that far country where I saw bliss not much farther along. So I invite you—I *entreat* you! And I say to those who fail to join us: goodbye. This is our last visit. We'll lose ourselves without a trace in the infinity of our own imaginations!"

"You have me wrong, my dear Hassan," Gisborne answered from his

seat. "Escape? And take pride in it? I'm no less an escapist than you, but I reject your metaphysics. I know my dreams and fancies for what they are. Electrons and photons, stored and released. Structured energy, dancing a pavane until the ballroom vaporizes in the shock of collision. And why not? What else is there to do? And so, if no one needs me, I'll tour Neverland with the rest of you."

"Antonia?" Hassan asked. "You've been quiet."

The woman shook her head, she who Pavel thought was the champion imagineer of them all. "How can we leave poor Taddeo to contend with seven more crises? I'm healthy. My downside hectares are photosynthesizing like mad. I can linger and give him a hand."

"Thank you." The proctor rose. "I've anticipated the next several adjustments, and set things in motion. The physical plant can live a while yet. When the vines die our roots will feed us—Pavel? Until Mars looms? I depend on you to catalyze my viral releases. Internal biomonitorers will warn of the proper times. But if you want to—er, escape—Antonia might take over your functions. I need one or the other of you, until my bag of tricks lies empty."

"It may as well be me who stays," Pavel said. "I'm used to the work." The others looked at him to elaborate. He was unable to do so. Life would be poorer without these friends, but he was not God, a host who could change the universe for their benefit!

And they'd not been good friends this last term; everyone off in a separate funk, until somehow Hassan found happiness. "Let Antonia go if she likes," was his verdict. He sounded so grudging she might not recognize it as his gift.

"I suppose I will then." She sighed. "Now or soon. I have a sister in Italy. I'll radio her, whether I'm the legal Antonia or not. Perhaps I'll use a false name. It's just—I can't leave and say *nothing!* A poem. Unsigned verses in my own words, *ex nihilo*. And then: 'from out our bourne of Time and Place / The flood may bear me far, / I hope to see my Pilot face to face / When I have crost the bar.'"

Gisborne laughed. "More Tennyson! Tush-tushery from five centuries ago! You forget UNETAO and their protocols. They'll jam your poem, for fear you've put God-knows-what in the datastream. Then what? Use your mirrors to carve words in ice! The ice will melt! Your immortal verses will vaporize!"

"You're a cruel soul, Gisborne," Joyce said.

He turned. "Cruel, darling? Yes, cruel. You know the image you present to us? All purity and primary colors? Such vapid sweetness! That's not for me. I have resources to diddle you; to see you squat and flabby, pus-faced and drab. Reality! My creation is real in directions of depth and ugliness and shadow you dare not follow. Yours is a cartoon with

tiddle-pum music in the background! God has better taste than to be found in your garden, and so . . . let's be off to hunt our chimeras."

With this, he vanished. Antonia walked over to give Joyce a kiss. "If we five suddenly found rescue, I'd not bother to tell him," she said.

"He can't be made more miserable than he makes himself, and that's his choice," Hassan added. "His perverse escape from doom. Come, Joyce. Our way is better."

Pavel and Taddeo stood for a round of final hugs, and then, whatever the proctor's agenda, the meeting was over. Eyes that saw wainscoting, the busts of old Greeks, and green grass out the windows—those eyes blinked, and looked at a crater of rippled, black-velvet ice under skies bedecked with stars. Tangled vines lay hot under thicknesses of spun-glass fur. Soon that white insulation would grow patchy, mottled with cancerous nodes and cankers.

Meanwhile—Mars. Not yet a disk, if a human were here to look at it. Mars, the next hotlife world. *Earth's time is nearly up. Just five hundred million years before it turns into a second Venus, the habitable band pushed out by a brightening sun.* Such were Pavel's thoughts. He was pleased to know hotlife can be pushed around, just like veggies. UNETAO's triumphs are disguised retreats. Life demands structure, reproducible complexity, with small toleration for error. That's why we love the cold. Heat forces errors. Yes, those errors sped up evolution on Earth, and hyperevolution is why genetically tampered Earthlife has spread out to the comets, replacing the dull proteinaceous creatures that grew here before. But radiation's front line is dangerous, and someday even Mars will be too hot.

Pavel laughed. "Certainly too hot for us! And in less than four billion years!" He bent to pet his dog. In his Donald Pleasance body he moved from the brass telescope on his balcony into his private study, an archetypical male den; fireplace, leather chair, bookshelves.

The dog had security functions, as dogs do. He knew I was around, a tiny trickle of energy. He sniffed for me and growled: "You're being monitored. UNETAO is taping your disloyal thoughts."

"Disloyal? To humans? Wild, genetically untampered humans are almost extinct on Earth. Maybe they'll use Mars as a refuge." Pavel drew into controversy with a fictoid very like myself, a fictoid who tries to keep him company in a time which has already become lonely. But I wonder if that tiresome dog can serve him much longer, because there's a new flavor to Pavel's thoughts. A sour discontent makes him work less patiently than before. Why should he face doom so nearly solitary in his sanity?

In time his four remaining eyes must frost over. What then? What will he do when his usefulness is gone?

I should pick this up not long after report 7, when Pavel sought to visit Antonia, hoping she was still composing her poem. But she was gone, her rooms abandoned. Clair Court lay empty and unkempt, and the playing fields beyond.

The fields were worse than weedy; they'd bushed out into hedges, stands of bracken, irruptions of wildflowers. All this was new, Antonia's first creation on her way to the far country.

It was the fringe of a rococo-romantic fairyland. Pavel crept forward, hearing shrill laughter. Trees shrouded his view, then parted to reveal a dell. Tables lay spread about this wild arcadia. The swings and bowers of an aristocrat's garden were overrun by a mob of cherubs. The party was in advanced disarray: half the celebrants staggered blearily like walking wounded. Presumably those who took pleasure in flight had flown elsewhere, leaving only flute-playing musicians among the virtuous. As for the rest, each doggedly pursued a favorite vice, playing at love, or plundering the cornucopias for yet more food.

Slaves of their programming, the wine-sots snored in drunken stupor. The rest looked at Pavel, uneasy guests suddenly doubtful. One catapulted to the air from her swing, and flew off with the graceless buzz of an imaginary figment endowed with too-small wings.

This prompted the others. Paired lovers tumbled and crawled for deeper cover. The flautists dropped their instruments and set to labored flapping. "Wait!" Pavel shouted. "Don't be afraid!" But now they spun pinkly off beyond the trees.

Only the gluttons lay in easy reach, a dozen still conscious. Might they flee too? Gor-bellied boys and girls wiped their greasy chins and began a futile flutter, too obese to get airborne even where the laws of physics bent in their favor. "Which way did Antonia go?" Pavel asked, collaring a girl of distended proportions. "Ulp," she said. He grabbed the fat boy who sprawled at her side. "Finish chewing, and answer."

From the next table over, another cherub laughed. "They don't know. They're stupid!" he said, a lad bloated almost beyond the spherical. "They didn't see. *I* can show you, though. For a reward."

"Guide me," Pavel ordered.

"Oof!" the cherub wobbled onto his feet. He caught his breath. "I can guide you, like I say. Except . . . have you ever heard of *chocolate*?"

"Yes."

"I tasted it once. It was fabulous! I want chocolate; *mountains* of chocolate, with cocoa rivers running through. All for me! Can you imagineer that?" He hugged himself at the thought, compressing his great belly—a

belly that went blubbetty-blubbetty as he waddled, his haunches rising and falling.

He angled past Pavel and shambled a hundred feet before stopping to rest. "Just a bit further," he gasped. "There, she went down that hole. At the base of that tree."

An Alice-in-Wonderland hole, Pavel thought. *Too small for my grotesque guide*. His usefulness ended sooner than he'd hoped. With a shrug Pavel banished the cherub into a landscape of chocolate, a scenario straight from the library, packaged years ago as a thirty-second commercial. It took barely any effort, and he was left to decide how far to pursue Antonia into the maze she was spinning for herself.

Later, he thought unhappily.

—But now, oh UNETAO, that later time has come. The interval between was filled with mirror-play, calculations of the solar flux, viral releases, and observations of Mars. Pavel watched even when his eyes hazed thinly over, blinding him to every light below first magnitude. He was lucky. Our target has grown bright, starting to show a disk even at zero magnification.

He wept, of course, at the loss of the stars. Just as he wept earlier when cancers fouled his vines, piebald fruitings of green and maroon, tempering his fever with prickly chills. In his sensory deprivation, he could hardly wait until the bio-monitors urged him to catalyze Taddeo's final release. But he did, and called the proctor with the news. "We'll live to Mars," Pavel announced. "To the moment of impact. We've done all we can, and it's enough."

"Thank you," Taddeo answered in tones of heartfelt relief. "What'll you do now?"

"I never realized it when she was around, and easy to find. I neglected her then. But I think I'm in love with Antonia, just a bit," Pavel said. "In love with my idea of her, at least; a dry, academic sort of love. An epiphenomenal passion, the best a mere vegetable can do. I've thought about her in my loneliness, and anyhow there's nothing else. I don't have her gifts of imagination, so I'll follow her trail. Maybe I'll catch up. At the very least, it'll be easy for me to get lost."

"Hassan's trick, eh? To find God in his garden of Paradise? And beg for salvation?"

"Solecism. A poor refuge, though better than nothing at all. No insult meant to Antonia, but my love isn't much to boast about. I'd rather face Mars as it swells in the sky, but how can I? My eyes are gone!" Pavel answered Taddeo. "—What about you?"

"It's true," Taddeo said. "These past terms we held apart at arms' length like phobic scholars—maybe to offset the fact that we all share

the same veg body. Physically we're unnaturally intimate, but that's not the real us; how could a mess of vines give play to the human spirit?

"Well anyhow, that's my work now. My new enthusiasm; vines and genetics, our crudest aspect. Joyce and Gisborne, Hassan and Antonia have little in common, but they'd all wonder at me, don't you think?"

"They'd wonder, yes," Pavel said. "Knowing our vines are sick and doomed. More than half are dead already."

"That's why I need all the hours you've given me," Taddeo answered. "I mean to do a little more work on the uploading and downloading of veg memories. The use of DNA as data, and how to breed nanocytes to convert that data back into something neurons can work with."

"If it's useful, I can radio UNETAO. They'll have staffers run tests beyond my resources. But I have to be careful. Toward the end I'll get feverish and weird—I know I will. My reports may veer from strict science-journal prose. I may discredit myself with strange enthusiasms."

"I feel fever much of the time," Pavel confessed. "It makes me light and dreamy. Well anyhow, good luck. I guess this is the parting of the ways."

They said goodbye in the inept way souls do, and Pavel called his dog. Together scholar and beast wandered to Clair Court. The place was overgrown by bramble, and the playing field was more junglelike than before. Pavel could barely find the tables.

No cherubs were left; not even the sots and the gluttons. The place was no longer sunny enough for them. One might rather expect golems and cyclops. Pavel turned to his right and hacked his way to the tree with a tumble-hole among its roots. The opening reeked of boiled cabbage and frankincense.

He crawled into a realm of tombs, another step removed from Trinity College. Need I recite his adventures? I think I should, to give some idea of distance. I rode piggyback all that way, my empathy high as I could make it, so that I felt all his motives, and wouldn't zig when he zagged. I didn't want to lose him, but he meant to lose himself, and eventually I was obliged to return to reality and make this report.

By going interior, Pavel rendered himself harmless. Given that fact you'll wonder why I stayed with him as long as I did. Why did I endure his fight against the nuns of the catacombs, and watch him suffer shipwreck, and ride behind his eyes as he ate roast ox at the campfires of the Danaans?

Call it a side effect of hundred-percent empathy. I grew involved. Something blossomed in me as Pavel began to have fun. He exercised aspects of life and personality that he barely knew he had. Fun? Fun trapped in that oubliette? Fun answering the Gnome King's riddle? It's not the best word to describe his feelings, but he was more vital, more animated, than

I knew him before. To be honest, he'd been a bore, however sincere and industrious, but Antonia might find him worthy of her love, when he finally catches up with her.

My address capacity is dimensioned at 4096, 128, 4. My concession to duty was this promise: I wouldn't follow Pavel after this array was filled. So I hopped back, tearing myself away from his new life. One great leap, from *omega* to *alpha*, to a study with a fireplace, and some books. Out on the balcony Pavel's telescope is frosted over, but its glazed view is bright, not murky. Would that be Mars? So near?

I'm a cap without a head. You'll expect me to find Taddeo. To remember my duty and monitor him now, in the absence of anyone else. Has UNETAO gotten any radio messages recently? Because he doesn't seem to be around. I'm surprised. In the end he must have opted for fantasy, just like the others.

In that case my job is done. We knew these six were harmless, and they proved so. I'll now begin to review my launch procedures.

—Report 9—

Glory! Glory and wonder! I'd not thought this new Martian atmosphere would reach so far to space. I imagined it hugged close like Earth's. But here we are, forty minutes to impact, and thanks to friction the frost has just burnt off Pavel's eyes. I'm delighted, so much have I taken his soul for my own. For the first time I see stupendous Mars close up: blue ocean curling into Chryse Planitia from the north, red deserts, and white glaciers accumulating on the vast slopes of Olympus Mons!

Quakes and outgassings! What do we look like to those below? There must be cameras, monitors like myself, even if the ground is too dangerous for human hotlife.

T minus 300. I'm ready to launch when the moment comes. The images I'm transmitting will be the last from Comet Trinity; a view of fizzing gas-holes, tortured mirrorstalks, and diseased vines, crusted over with swollen nodules, round as nuts. Nuts imbedded in pods. . . .

Pods? No, I can't accept—pods?

Yes.

No: deceit, that's what it would be. Deceit, if these growths aren't cancers after all! Deceit and lies!

Taddeo! That bastard Taddeo! Damn me for a fool! Pavel believed in him, and I believed Pavel. But why? Why *seeds*, of all things? God!—excuse me. I'm forced to disconnect from some of these emotions, or they'll incapacitate me. Treason! Lies!

Mars spins below. What do they think? That they can veg the planet

in their own image? Do six Earthborn souls identify so much with a mere genetically tampered *weed*? I don't believe it, yet even now I see pods elevating, responding to some programmed tropism.

Bang. There goes one now. A silent bullet shot to space, escaping Trinity's light gravity. As I speak I look closely and see more pops, willy-nilly in a dozen directions. A bit wasteful; some seeds lost to space, some to the molten sea still beyond our horizon. But there are so many of them! Millions of "cancers," soon to volley forth in popcorn madness!

The pace accelerates as the comet shakes and groans. Each shudder sets off an artillery barrage! I wonder if I dare launch after all. I'll be strafed! A nut to the gut, and there's an end to me!

I'm a failure. "No revenge"—my own words! My promise to UNETAO, and now—this! This petty act of vegetablism. Irresponsible seeds! What will sprout from those seeds, I wonder? Did Taddeo have evil in mind? Were the others his co-conspirators, or were they kept in the dark, like Pavel, my astronomer simpleton?

What a joke. I thought *they* were the ones with no more choices. Now it's us! T minus 90. No choice but to launch, and hope I survive. No choice but to hope that Taddeo was a better soul in his scheming than to curse UNETAO's new Mars with plagues and abominations!

T minus 75. Space is thick now. I deserve whatever damage comes to me, but I make this vow. If I survive, if I make it to solid ground, I'll do my best to find one of these nuts. Perhaps it will grow, and reveal Taddeo's purposes. Good or evil. He must die, but how will we remember him?

T minus 10. Five, four, three . . .

—Report 10—

Late. I know. Years? I did not land unscathed, and Trinity's impact (God, what a hammerstrike!) unleashed a rolling darkness that well nigh buried me in ash-dust-mud. Just now a rare cloudburst washed me free again.

New mud. Something more to worry about. I know how well I'm sealed. I know it's a phobia—mere madness—to think fine particles worked inside to cripple me, but however it happened, I'm decrepit now. In Martian gravity my mobility is pathetic. My signal strength—are you hearing this? Is anyone listening? UNETAO must have reassigned my frequency. These words may be junking up someone else's transmission.

And yet I see nothing. No veg plague-trees, or whatever. Just some humble bushes, with the silver-green color of Russian olives. Very scattered, and perhaps planted by hotlife colonists. Or maybe not. What?

Maybe ten, fifteen years for seeds to grow this large? Or longer yet, in this hostile climate?

I'm trying to move.

Good, I have some control. More than I thought. I can make it from where the river washed me up. They look like woody shrubs, not vinous at all. Leaves clustered like tongues of green flame. Plum-size fruit, in shades of green to red. Yes? Yes—UNETAO? You are receiving me? Arrangements to pick me up? I'd be very grateful, despite my failings.

You're joking, right? "Eat the fruit?" I'm sorry, but that's impossible for monitors of my class. Is that the secret then? Taddeo's purpose? Something to do with eating the fruit? I've been null for so long. Things have changed, and now you're laughing at me.

Yes, I can wait. I've done little but wait, I should be good at it by now. No, don't apologize. You sound kind in your laughter, a kinder voice than I deserve.

Mottles on the fruit? Those little dots? Black.—Black for Hassan? I don't understand. You mean Hassan's soul is somehow alive in—excuse me. Sorry to talk over your words. You can eat his memories, then? But not all of them, not in a single fruit. The worlds he imagined are too big for that. Sort of like eating a short story? A vignette, yes? And colonists collect them. They plant libraries!

Then in time, with enough of his story, Hassan will grow inside them. Not quite life, but certainly immortality! Taddeo's gift to his friends! What a fine touch, those color codes. Blue for Gisborne, red for Antonia, white for Joyce—six hues in all, fans specializing in favorite colors!

They went hunting for God. What did their God have to do with this, I wonder? Which fruit will tell us if they found Him? Has that bush been found on some wild slope? Does anyone know if Pavel joined his love at last, before the end? Which shrubs teach Taddeo's genetic skills? Which remember the poems of Tennyson?

Trees of knowledge and fantasy, in this new hotlife garden of Mars! ●

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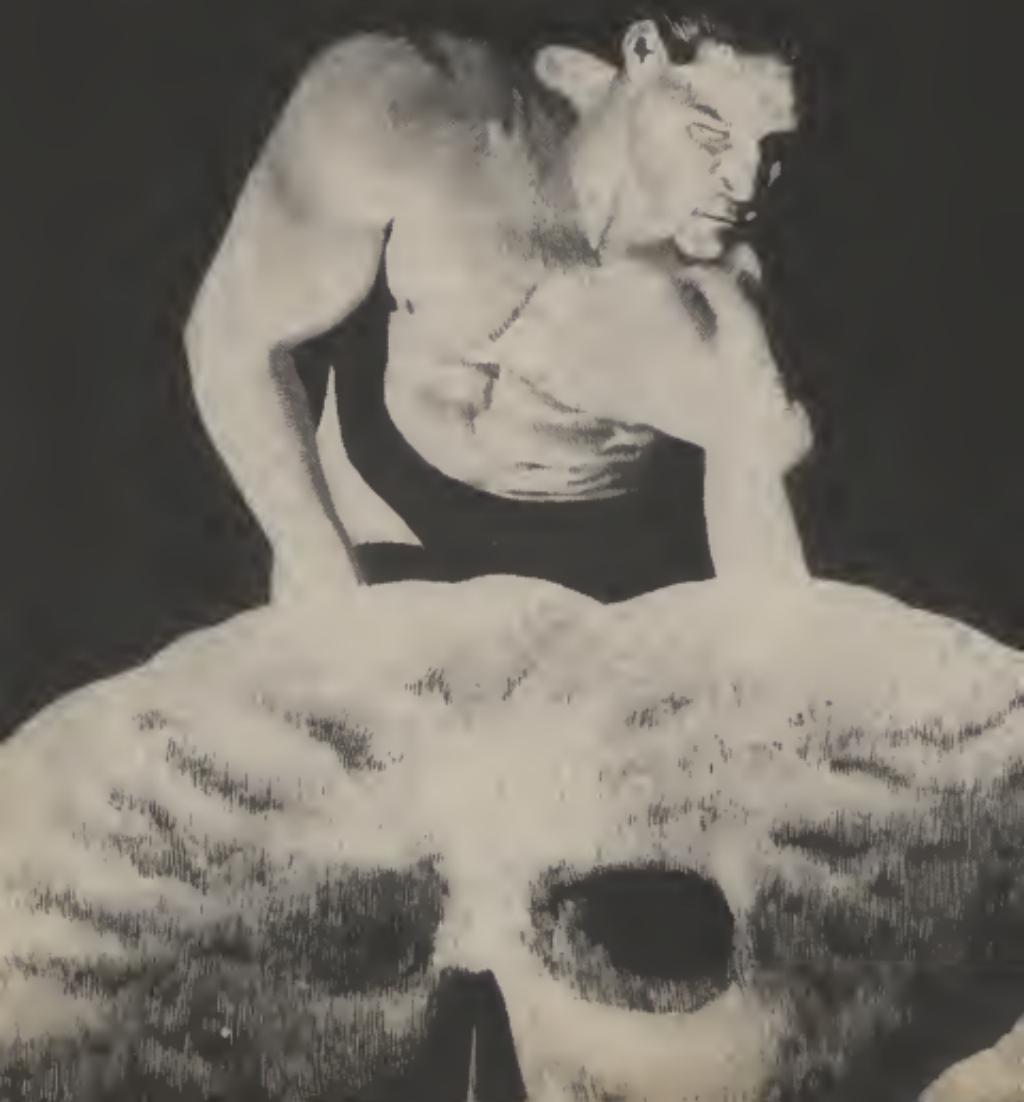
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UNDERSTAND

by Ted Chiang

Ted Chiang graduated from Brown University in 1989 with a degree in computer science. He is an alumnus of the Clarion Writers' Workshop as well, and his short stories have sold to *Omni* and *Full Spectrum 3*. "Understand" is his first tale for *Asimov's*.

art: John Johnson



A layer of ice; it feels rough against my face, but not cold. I've got nothing to hold on to; my gloves just keep sliding off it. I can see people on top, running around, but they can't do anything. I'm trying to pound the ice with my fists, but my arms move in slow motion, and my lungs must have burst, and my head's going fuzzy, and I feel like I'm dissolving—

I wake up, screaming. My heart's going like a jackhammer. Christ. I pull off my blankets and sit on the edge of the bed.

I couldn't remember that before. Before I only remembered falling through the ice; the doctor said my mind had suppressed the rest. Now I remember it, and it's the worst nightmare I've ever had.

I'm grabbing the down comforter with my fists, and I can feel myself trembling. I try to calm down, to breathe slowly, but sobs keep forcing their way out. It was so real I could *feel* it: feel what it was like to die.

I was in that water for nearly an hour; I was more vegetable than anything else by the time they brought me up. Am I recovered? It was the first time the hospital had ever tried their new drug on someone with so much brain damage. Did it work?

The same nightmare, again and again. After the third time, I know I'm not going to sleep again. I spend the remaining hours before dawn worrying. Is this the result? Am I losing my mind?

Tomorrow is my weekly checkup with the resident at the hospital. I hope he'll have some answers.

I drive into downtown Boston, and after half an hour Dr. Hooper can see me. I sit on an examination table behind a yellow curtain. Jutting out of the wall at waist-height is a horizontal flatscreen, adjusted for tunnel vision so it appears blank from my angle. The doctor types at the keyboard, presumably calling up my file, and then starts examining me. As he's checking my pupils with a penlight, I tell him about my nightmares.

"Did you ever have any before the accident, Leon?" He gets out his little mallet and taps at my elbows, knees, and ankles.

"Never. Are these a side effect of the drug?"

"Not a side effect. The hormone K therapy regenerated a lot of damaged neurons, and that's an enormous change that your brain has to adjust to. The nightmares are probably just a sign of that."

"Is this permanent?"

"It's unlikely," he says. "Once your brain gets used to having all those pathways again, you'll be fine. Now touch your index finger to the tip of your nose, and then bring it to my finger here."

I do what he tells me. Next he has me tap each finger to my thumb,

quickly. Then I have to walk a straight line, as if I'm taking a sobriety test. After that, he starts quizzing me.

"Name the parts of an ordinary shoe."

"There's the sole, the heel, the laces. Um, the holes that the laces go through are eyes, and then there's the tongue, underneath the laces . . ."

"Okay. Repeat this number: three nine one seven four—"

"—six two."

Dr. Hooper wasn't expecting that. "What?"

"Three nine one seven four six two. You used that number the first time you examined me, when I was still an inpatient. I guess it's a number you test patients with a lot."

"You weren't supposed to memorize it; it's meant to be a test of immediate recall."

"I didn't intentionally memorize it. I just happened to remember it."

"Do you remember the number from the second time I examined you?"

I pause for a moment. "Four zero eight one five nine two."

He's surprised. "Most people can't retain so many digits if they've only heard them once. Do you use mnemonic tricks?"

I shake my head. "No. I always keep phone numbers in the autodialer."

He goes to the terminal and taps at the numeric keypad. "Try this one." He reads a fourteen-digit number, and I repeat it back to him. "You think you can do it backward?" I recite the digits in reverse order. He frowns, and starts typing something into my file.

I'm sitting in front of a terminal in one of the testing rooms in the psychiatric ward; it's the nearest place Dr. Hooper could get some intelligence tests. There's a small mirror set in one wall, probably with a video camera behind it. In case it's recording, I smile at it and wave briefly. I always do that to the hidden cameras in automatic cash machines.

Dr. Hooper comes in with a printout of my test results. "Well, Leon, you did . . . very well. On both tests you scored in the ninety-ninth percentile."

My jaw drops. "You're kidding."

"No, I'm not." He has trouble believing it himself. "Now that number doesn't indicate how many questions you got right; it means that relative to the general population—"

"I know what it means," I say absently. "I was in the seventieth percentile when they tested us in high school." Ninety-ninth percentile. Inwardly, I'm trying to find some sign of this. What should it feel like?

He sits down on the table, still looking at the printout. "You never attended college, did you?"

I return my attention to him. "I did, but I left before graduating. My ideas of education didn't mesh with the professors'."

"I see." He probably takes this to mean I flunked out. "Well, clearly you've improved tremendously. A little of that may have come about naturally as you grew older, but most of it must be a result of the hormone K therapy."

"This is one hell of a side-effect."

"Well, don't get too excited. Test scores don't predict how well you can do things in the real world." I roll my eyes upward when Dr. Hooper isn't looking. Something amazing is going on, and all he can offer is a truism. "I'd like to follow up on this with some more tests. Can you come in tomorrow?"

I'm in the middle of retouching a hologram when the phone rings. I waver between the phone and the console, and reluctantly opt for the phone. I'd normally have the answering machine take any calls when I'm editing, but I need to let people know I'm working again. I lost a lot of business when I was in the hospital: one of the risks of being a freelancer. I touch the phone and say, "Greco Holographics, Leon Greco speaking."

"Hey Leon, it's Jerry."

"Hi Jerry. What's up?" I'm still studying the image on the screen: it's a pair of helical gears, intermeshed. A trite metaphor for cooperative action, but that's what the customer wanted for his ad.

"You interested in seeing a movie tonight? Me and Sue and Tori were going to see *Metal Eyes*."

"Tonight? Oh, I can't. Tonight's the last performance of the one-woman show at the Hanning Playhouse." The surfaces of the gear teeth are scratched and oily-looking. I highlight each surface using the cursor, and type in the parameters to be adjusted.

"What's that?"

"It's called *Symplectic*. It's a monologue in verse." Now I adjust the lighting, to remove some of the shadows from where the teeth mesh. "Want to come along?"

"Is this some kind of Shakespearean soliloquy?"

Too much: with that lighting, the outer edges will be too bright. I specify an upper limit for the reflected light's intensity. "No, it's a stream-of-consciousness piece, and it switches between four different meters; iambic's only one of them. All the critics called it a *tour de force*."

"I didn't know you were such a fan of poetry."

After checking all the numbers once more, I let the computer recalculate the interference pattern. "Normally, I'm not, but this one seemed really interesting. How's it sound to you?"

"Thanks, but I think we'll stick with the movie."

"Okay, you guys have fun. Maybe we can get together next week." We say goodbye and hang up, and I wait for the recalc to finish.

Suddenly it occurs to me what's just happened. I've never been able to do any editing while talking on the phone. But this time I had no trouble keeping my mind on both things at once.

Will the surprises never end? Once the nightmares were gone and I could relax, the first thing I noticed was the increase in my reading speed and comprehension. I was actually able to read the books on my shelves that I'd always meant to get around to, but never had the time; even the more difficult, technical material. Back in college, I'd accepted the fact that I couldn't study everything that interested me. It's exhilarating to discover that maybe I can; I was positively gleeful when I bought an armload of books the other day.

And now I find I can concentrate on two things at once; something I never would have predicted. I stand up at my desk and shout out loud, as if my favorite baseball team had just surprised me with a triple play. That's what it feels like.

The Neurologist-in-Chief, Dr. Shea, has taken over my case, presumably because he wants to take the credit. I scarcely know him, but he acts as if I've been his patient for years.

He's asked me into his office to have a talk. He interlaces his fingers and rests his elbows on his desk. "How do you feel about the increase in your intelligence?" he asks.

What an inane question. "I'm very pleased about it."

"Good," says Dr. Shea. "So far, we've found no adverse effects of the hormone K therapy. You don't require any further treatment for the brain damage from your accident." I nod. "However, we're conducting a study to learn more about the hormone's effect on intelligence. If you're willing, we'd like to give you a further injection of the hormone, and then monitor the results."

Suddenly he's got my attention; finally, something worth listening to. "I'd be willing to do that."

"You understand that this is purely for investigational purposes, not therapeutic. You may benefit from it with further gains in your intelligence, but this is not medically necessary for your health."

"I understand. I suppose I have to sign a consent form."

"Yes. We can also offer you some compensation for participating in this study." He names a figure, but I'm barely listening.

"That'll be fine." I'm imagining where this might lead, what it might mean for me, and a thrill runs through me.

"We'd also like you to sign a confidentiality agreement. Clearly this

drug is enormously exciting, but we don't want any announcements to be made prematurely."

"Certainly, Dr. Shea. Has anyone been given additional injections before?"

"Of course; you're not going to be a guinea pig. I can assure you, there haven't been any harmful side effects."

"What sort of effects did they experience?"

"It's better if we don't plant suggestions in your mind: you might imagine you were experiencing the symptoms I mention."

Shea's very comfortable with the doctor-knows-best routine. I keep pushing. "Can you at least tell me how much their intelligence increased?"

"Every individual is different. You shouldn't base your expectations on what's happened to others."

I conceal my frustration. "Very well, doctor."

If Shea doesn't want to tell me about hormone K, I can find out about it on my own. From my terminal at home I log onto the datanet. I access the FDA's public database, and start perusing their current IND's, the Investigational New Drug applications that must be approved before human trials can begin.

The application for hormone K was submitted by Sorensen Pharmaceutical, a company researching synthetic hormones that encourage neuron regeneration in the central nervous system. I skim the results of the drug tests on oxygen-deprived dogs, and then baboons: all the animals recovered completely. Toxicity was low, and long term observation didn't reveal any adverse effects.

The results of cortical samples are provocative. The brain-damaged animals grew replacement neurons with many more dendrites, but the healthy recipients of the drug remained unchanged. The conclusion of the researchers: hormone K replaces only damaged neurons, not healthy ones. In the brain-damaged animals, the new dendrites seemed harmless: PET scans didn't reveal any change in brain metabolism, and the animals' performance on intelligence tests didn't change.

In their application for human clinical trials, the Sorensen researchers outlined protocols for testing the drug first on healthy subjects, and then on several types of patients: stroke victims, sufferers of Alzheimer's, and persons—like me—in a persistent vegetative state. I can't access the progress reports for those trials: even with patient anonymity, only participating doctors have clearance to examine those records.

The animal studies don't shed any light on the increased intelligence in humans. It's reasonable to assume that the effect on intelligence is proportional to the number of neurons replaced by the hormone, which

in turn depends on the amount of initial damage. That means that the deep coma patients would undergo the greatest improvements. Of course, I'd need to see the progress of the other patients to confirm this theory; that'll have to wait.

The next question: is there a plateau, or will additional dosages of the hormone cause further increases? I'll know the answer to that sooner than the doctors.

I'm not nervous; in fact, I feel quite relaxed. I'm just lying on my stomach, breathing very slowly. My back is numb; they gave me a local anesthetic, and then injected the hormone K intraspinally. An intravenous wouldn't work, since the hormone can't get past the blood-brain barrier. This is the first such injection I can recall having, though I'm told that I've received two before: the first while still in the coma, the second when I had regained consciousness but no cognitive ability.

More nightmares. They're not all actually violent, but they're the most bizarre, mind-blowing dreams I've ever had, often with nothing in them that I recognize. I often wake up screaming, flailing around in bed. But this time, I know they'll pass.

There are several psychologists at the hospital studying me now. It's interesting to see how they analyze my intelligence. One doctor perceives my skills in terms of components, such as acquisition, retention, performance, and transfer. Another looks at me from the angles of mathematical and logical reasoning, linguistic communication, and spatial visualization.

I'm reminded of my college days when I watch these specialists, each with a pet theory, each contorting the evidence to fit. I'm even less convinced by them now than I was back then; they still have nothing to teach me. None of their categorizations are fruitful in analyzing my performance, since—there's no point in denying it—I'm equally good at everything.

I could be studying a new class of equation, or the grammar of a foreign language, or the operation of an engine; in each case, everything fits together, all the elements cooperate beautifully. In each case, I don't have to consciously memorize rules, and then apply them mechanically. I just perceive how the system behaves as a whole, as an entity. Of course, I'm aware of all the details and individual steps, but they require so little concentration that they almost feel intuitive.

Penetrating computer security is really quite dull; I can see how it might attract those who can't resist a challenge to their cleverness, but

it's not intellectually aesthetic at all. It's no different than tugging on the doors of a locked house until you find an improperly installed lock. A useful activity, but hardly interesting.

Getting into the FDA's private database was easy. I played with one of the hospital wall terminals, running the visitor information program, which displays maps and a staff directory. I broke out of the program to the system level, and wrote a decoy program to mimic the opening screen for logging on. Then I simply left the terminal alone; eventually one of my doctors came by to check one of her files. The decoy rejected her password, and then restored the true opening screen. The doctor tried logging in again, and was successful this time, but her password was left with my decoy.

Using the doctor's account, I had clearance to view the FDA patient record database. In the Phase I trials, on healthy volunteers, the hormone had no effect. The ongoing Phase II clinical trials are a different matter. Here are weekly reports on eighty-two patients, each identified by a number, all treated with hormone K, most of them victims of a stroke or Alzheimer's, some of them coma cases. The latest reports confirm my prediction: those with greater brain damage display greater increases in intelligence. PET scans reveal heightened brain metabolism.

Why didn't the animal studies provide a precedent for this? I think the concept of critical mass provides an analogy. Animals fall below some critical mass in terms of synapses; their brains support only minimal abstraction, and gain nothing from additional synapses. Humans exceed that critical mass. Their brains support full self-awareness, and—as these records indicate—they use any new synapses to the fullest possible extent.

The most exciting records are those of the newly begun investigational studies, using a few of the patients who volunteered. Additional injections of the hormone do increase intelligence further, but again it depends on the degree of initial damage. The patients with minor strokes haven't even reached genius levels. Those with greater damage have gone further.

Of the patients originally in deep coma states, I'm the only one thus far who's received a third injection. I gained more new synapses than anyone previously studied; it's an open question as to how high my intelligence will go. I can feel my heart pounding when I think about it.

Playing with the doctors is becoming more and more tedious as the weeks go by. They treat me as if I were simply an idiot savant: a patient who exhibits certain signs of high intelligence, but still just a patient. As far as the neurologists are concerned, I'm just a source of PET scan images and an occasional vial of cerebrospinal fluid. The psychologists

have the opportunity to gain some insight into my thinking with their interviews, but they can't shed their preconception of me as someone out of his depth, an ordinary man awarded gifts that he can't appreciate.

On the contrary, the doctors are the ones who don't appreciate what's happening. They're certain that real-world performance can't be enhanced by a drug, and that my ability exists only according to the artificial yardstick of intelligence tests, so they waste their time with those. But the yardstick is not only contrived, it's too short: my consistently perfect scores don't tell them anything, because they have no basis for comparison this far out on the bell curve.

Of course, the test scores merely capture a shadow of the real changes occurring. If only the doctors could feel what's going on in my head: how much I'm recognizing that I missed before, how many uses I can see for that information. Far from being a laboratory phenomenon, my intelligence is practical and effectual. With my near total recall and my ability to correlate, I can assess a situation immediately, and choose the best course of action for my purposes; I'm never indecisive. Only theoretical topics pose a challenge.

No matter what I study, I can see patterns. I see the gestalt, the melody within the notes, in everything: mathematics and science, art and music, psychology and sociology. As I read the texts, I can think only that the authors are plodding along from one point to the next, groping for connections that they can't see. They're like a crowd of people unable to read music, peering at the score for a Bach sonata, trying to explain how one note leads to another.

As glorious as these patterns are, they also whet my appetite for more. There are other patterns waiting to be discovered, gestalts of another scale entirely. With respect to those, I'm blind myself; all my sonatas are just isolated data points by comparison. I have no idea what form such gestalts might assume, but that'll come in time. I want to find them, and comprehend them. I want this more than anything I've ever wanted before.

The visiting doctor's name is Clausen, and he doesn't behave like the other doctors. Judging by his manner, he's accustomed to wearing a mask of blandness with his patients, but he's a bit uncomfortable today. He affects an air of friendliness, but it isn't as fluent as the perfunctory noise that the other doctors make.

"The test works this way, Leon: you'll read some descriptions of various situations, each presenting a problem. After each one, I want you to tell me what you'd do to solve that problem."

I nod. "I've had this kind of test before."

"Fine, fine." He types a command, and the screen in front of me fills with text. I read the scenario: it's a problem in scheduling and prioritizing. It's realistic, which is unusual; scoring such a test is too arbitrary for most researchers' tastes. I wait before giving my answer, though Clausen is still surprised at my speed.

"That's very good, Leon." He hits a key on his computer. "Try this one."

We continue with more scenarios. As I'm reading the fourth one, Clausen is careful to display only professional detachment. My response to this problem is of special interest to him, but he doesn't want me to know. The scenario involves office politics and fierce competition for a promotion.

I realize who Clausen is: he's a government psychologist, perhaps military, probably part of the CIA's Office of Research and Development. This test is meant to gauge hormone K's potential for producing strategists. That's why he's uncomfortable with me: he's used to dealing with soldiers and government employees, subjects whose job is to follow orders.

It's likely that the CIA will wish to retain me as a subject for more tests; they may do the same with other patients, depending on their performance. After that, they'll get some volunteers from their ranks, starve their brains of oxygen, and treat them with hormone K. I certainly don't wish to become a CIA resource, but I've already demonstrated enough ability to arouse their interest. The best I can do is to downplay my skills and get this question wrong.

I offer a poor course of action as my answer, and Clausen is disappointed. Nonetheless, we press on. I take longer on the scenarios now, and give weaker responses. Sprinkled among the harmless questions are the critical ones: one about avoiding a hostile corporate takeover, another about mobilizing people to prevent the construction of a coal burning plant. I miss each of these questions.

Clausen dismisses me when the test ends; he's already trying to formulate his recommendations. If I'd shown my true abilities, the CIA would recruit me immediately. My uneven performance will reduce their eagerness, but it won't change their minds; the potential returns are too great for them to ignore hormone K.

My situation has changed profoundly; when the CIA decides to retain me as a test subject, my consent will be purely optional. I must make plans.

It's four days later, and Shea is surprised. "You want to withdraw from the study?"

"Yes, effective immediately. I'm returning to work."

"If it's a matter of compensation, I'm sure we can—"

"No, money's not the problem. I've simply had enough of these tests."

"I know the tests become tiring after a while, but we're learning a great deal. And we appreciate your participation, Leon. It's not merely—"

"I know how much you're learning from these tests. It doesn't change my decision: I don't wish to continue."

Shea starts to speak again, but I cut him off. "I know that I'm still bound by the confidentiality agreement; if you'd like me to sign something confirming that, send it to me." I get up and head for the door. "Goodbye, Dr. Shea."

It's two days later when Shea calls.

"Leon, you have to come in for an examination. I've just been informed: adverse side effects have been found in patients treated with hormone K at another hospital."

He's lying; he'd never tell me that over the phone. "What sort of side effects?"

"Loss of vision. There's excessive growth of the optic nerve, followed by deterioration."

The CIA must have ordered this when they heard that I'd withdrawn from the study. Once I'm back in the hospital, Shea will declare me mentally incompetent, and confine me to their care. Then I'll be transferred to a government research institution.

I assume an expression of alarm. "I'll come down right away."

"Good." Shea is relieved that his delivery was convincing. "We can examine you as soon as you arrive."

I hang up and turn on my terminal to check the latest information in the FDA database. There's no mention of any adverse effects, on the optic nerve or anywhere else. I don't discount the possibility that such effects might arise in the future, but I'll discover them by myself.

It's time to leave Boston. I begin packing. I'll empty my bank accounts when I go. Selling the equipment in my studio would generate more cash, but most of it is too large to transport; I take only a few of the smallest pieces. After I've been working a couple of hours, the phone rings again: Shea wondering where I am. This time I let the machine pick it up.

"Leon, are you there? This is Dr. Shea. We've been expecting you for quite some time."

He'll try calling one more time, and then he'll send the orderlies in white suits, or perhaps the actual police, to pick me up.

Seven-thirty P.M. Shea is still in the hospital, waiting for news about me. I turn the ignition key and pull out of my parking spot across the street from the hospital. Any moment now, he'll notice the envelope I

slipped under the door to his office. As soon as he opens it he'll realize that it's from me.

Greetings Dr. Shea;

I imagine you're looking for me.

A moment of surprise, but no more than a moment; he'll regain his composure, and alert security to search the building for me, and check all vehicles leaving. Then he'll continue reading.

You can call off those burly orderlies who are waiting at my apartment; I don't want to waste their valuable time. You're probably determined to have the police issue an APB on me, though. Therefore, I've taken the liberty of inserting a virus in the DMV computer, one which will substitute information whenever my license plate number is requested. Of course, you could give a description of my car, but you don't even know what it looks like, do you?

Leon

He'll call the police to have their programmers work on that virus. He'll conclude that I have a superiority complex, based on the arrogant tone of the note, the unnecessary risk taken in returning to the hospital to deliver it, and the pointless revelation of a virus which might otherwise have gone undetected.

Shea will be mistaken, though. Those actions are designed to make the police and CIA underestimate me, so I can rely on their not taking adequate precautions. After cleaning my virus from the DMV computer, the police programmers will assess my programming skill as good but not great, and then load the backups to retrieve my actual license number. This will activate a second virus, a far more sophisticated one. This one will modify both the backups and the active database. The police will be satisfied that they've got the correct license number, and spend their time chasing that wild goose.

My next goal is to get another ampule of hormone K. Doing so, unfortunately, will give the CIA an accurate idea of how capable I really am. If I hadn't sent that note, the police would discover my virus later, at a time when they'd know to take super-stringent precautions when eradicating it. In that case, I might never be able to remove my license number from their files.

Meanwhile, I've checked into a hotel, and am working out of the room's datanet terminal.

I've broken into the private database of the FDA. I've seen the addresses of the hormone K subjects, and the internal communications of the FDA. A clinical hold was instituted for hormone K: no further testing permitted until the hold is lifted. The CIA has insisted on capturing me and assessing my threat potential before the FDA goes any further.

The FDA has asked all the hospitals to return the remaining ampules by courier. I must get an ampule before this happens. The nearest patient is in Pittsburgh; I reserve a seat on a flight leaving early tomorrow morning. Then I check a map of Pittsburgh, and make a request to the Pennsylvania Courier company for a pick-up at an investment firm in the downtown area. Finally I sign up for several hours of CPU time on a supercomputer.

I'm parked in a rental car around the corner from a skyscraper in Pittsburgh. In my jacket pocket is a small circuit board with a keypad. I'm looking down the street in the direction the courier will arrive from; half the pedestrians wear white air filter masks, but visibility is good.

I see it two intersections away; it's a late-model domestic van, PENNSYLVANIA COURIER painted on the side. It's not a high-security courier; the FDA isn't that worried about me. I get out of my car and begin walking toward the skyscraper. The van arrives shortly, parks, and the driver gets out. As soon as he's inside, I enter the vehicle.

It's just come from the hospital. The driver is on his way to the fortieth floor, expecting to pick up a package from an investment firm there. He won't be back for at least four minutes.

Welded to the floor of the van is a large locker, with double-layered steel walls and door. There is a polished plate on the door; the locker opens when the driver lays his palm against its surface. The plate also has a data port in its side, used for programming it.

Last night I penetrated the service database for Lucas Security Systems, the company that sells handprint locks to Pennsylvania Courier. There I found an encrypted file containing the codes to override their locks.

I must admit that, while penetrating computer security remains generally unaesthetic, certain aspects of it are indirectly related to very interesting problems in mathematics. For example, a commonly used method of encryption normally requires years of supercomputer time to break. However, during one of my forays into number theory, I found a lovely technique for factoring extremely large numbers. With this technique, a supercomputer could break this encryption scheme in a matter of hours.

I pull the circuit board from my pocket and connect it to the data port with a cable. I tap in a twelve-digit number, and the locker door swings open.

By the time I'm back in Boston with the ampule, the FDA has responded to the theft by removing all pertinent files from any computer accessible through the datanet: as expected.

With the ampule and my belongings, I drive to New York City.

* * *

The fastest way for me to make money is, oddly enough, gambling. Handicapping horse races is simple enough. Without attracting undue attention, I can accumulate a moderate sum, and then sustain myself with investments in the stock market.

I'm staying in a room in the cheapest apartment I could find near New York that has datanet outlets. I've arranged several false names under which to make my investments, and will change them regularly. I shall spend some time on Wall Street, so that I can identify high-yield short-term opportunities from the body language of brokers. I won't go more than once a week; there are more significant matters to attend to, gestalts beckoning my attention.

As my mind develops, so does my control over my body. It is a misconception to think that during evolution humans sacrificed physical skill in exchange for intelligence: wielding one's body is a mental activity. While my strength hasn't increased, my coordination is now well above average; I'm even becoming ambidextrous. Moreover, my powers of concentration make biofeedback techniques very effective. After comparatively little practice, I am able to raise or lower my heart rate and blood pressure.

I write a program to perform a pattern match for photos of my face, and search for occurrences of my name; I then incorporate it into a virus for scanning all public display files on the datanet. The CIA will have the datanet news briefs display my picture and identify me as a dangerously insane escaped patient, perhaps a murderer. The virus will replace my photo with video static. I plant a similar virus in the FDA and CIA computers, to search for copies of my picture in any downloads to regional police. These viruses should be immune to anything that their programmers can come up with.

Undoubtedly Shea and the other doctors are in consultation with the psychologists of the CIA, guessing where I might have gone. My parents are dead, so the CIA is turning its attention to my friends, asking whether I've contacted them; they'll maintain surveillance on them in the event I do. A regrettable invasion of their privacy, but it isn't a pressing matter.

It's unlikely that the CIA will treat any of their agents with hormone K to locate me. As I myself demonstrate, a superintelligent person is too difficult to control. However, I'll keep track of the other patients, in case the government decides to recruit them.

The quotidian patterns of society are revealed without my making an

effort. I walk down the street, watching people go about their business, and though not a word is spoken, the subtext is conspicuous. A young couple strolls by, the adoration of one bouncing off the tolerance of the other. Apprehension flickers and becomes steady as a businessman, fearful of his supervisor, begins to doubt a decision he made earlier today. A woman wears a mantle of simulated sophistication, but it slips when it brushes past the genuine article.

As always, the roles one plays become recognizable only with greater maturity. To me, these people seem like children on a playground; I'm amused by their earnestness, and embarrassed to remember myself doing those same things. Their activities are appropriate for them, but I couldn't bear to participate now; when I became a man, I put away childish things. I will deal with the world of normal humans only as needed to support myself.

I acquire years of education each week, assembling ever larger patterns. I view the tapestry of human knowledge from a broader perspective than anyone ever has before; I can fill gaps in the design where scholars never even noticed a lack, and enrich the texture in places that they felt were complete.

The natural sciences have the clearest patterns. Physics admits of a lovely unification, not just at the level of fundamental forces, but when considering its extent and implications. Classifications like "optics" or "thermodynamics" are just straitjackets, preventing physicists from seeing countless intersections. Even putting aside aesthetics, the practical applications that have been overlooked are legion; years ago engineers could have been artificially generating spherically symmetric gravity fields.

Having realized this, however, I won't build such a device, or any other. It would require many custom-built components, all difficult and time-consuming to procure. Furthermore, actually constructing the device wouldn't give me any particular satisfaction, since I already know it would work, and it wouldn't illuminate any new gestalts.

I'm writing part of an extended poem, as an experiment; after I've finished one canto, I'll be able to choose an approach for integrating the patterns within all the arts. I'm employing six modern and four ancient languages; they include most of the significant worldviews of human civilization. Each one provides different shades of meaning and poetic effects; some of the juxtapositions are delightful. Each line of the poem contains neologisms, born by extruding words through the declensions of another language. If I were to complete the entire piece, it could be thought of as *Finnegans Wake* multiplied by Pound's *Cantos*.

The CIA interrupts my work; they're baiting a trap for me. After two months of trying, they've accepted that they can't locate me by conventional methods, so they've turned to more drastic measures. The news services report that the girlfriend of a deranged murderer has been charged with aiding and abetting his escape. The name given is Connie Perritt, someone I was seeing last year. If it goes to trial, it's a foregone conclusion that she'll be sentenced to a lengthy prison term; the CIA is hoping that I won't allow that. They expect me to attempt a maneuver that will expose me to capture.

Connie's preliminary hearing is tomorrow. They'll insure that she's released on bail, through a bondsman if necessary, to give me an opportunity to contact her. Then they'll saturate the area around her apartment with undercover agents to wait for me.

I begin editing the first image on screen. These digital photos are so minimal compared to holos, but they serve the purpose. The photos, taken yesterday, show the exterior of Connie's apartment building, the street out front, and nearby intersections. I move the cursor across the screen, drawing small crosshairs in certain locations on the images. A window, with lights out but curtains open, in the building diagonally opposite. A street vendor two blocks from the rear of the building.

I mark six locations altogether. They indicate where CIA agents were waiting last night, when Connie went back to her apartment. Having been cued by the videotapes of me in the hospital, they knew what to look for in all male or ambiguous passersby: the confident, level gait. Their expectations worked against them; I simply lengthened my strides, bobbed my head up and down a bit, reduced my arm motion. That and some atypical clothes were sufficient for them to ignore me as I walked through the area.

At the bottom of one photo I type the radio frequency used by the agents for communication, and an equation describing the scrambling algorithm employed. Once I've finished, I transmit the images to the Director of the CIA. The implication is clear: I could kill his undercover agents at any time, unless they withdraw.

To have them drop charges against Connie, and for a more permanent deterrent against the CIA's distractions, I shall have to do some more work.

Pattern recognition again, but this time it's of a mundane variety. Thousands of pages of reports, memos, correspondence; each one is a dot of color in a pointillist painting. I step back from this panorama, watching for lines and edges to emerge and create a pattern. The megabytes

that I scanned constituted only a fraction of the complete records for the period I investigated, but they were enough.

What I've found is rather ordinary, far simpler than the plot of a spy novel. The Director of the CIA was aware of a terrorist group's plan to bomb the Washington, D.C., metro system. He let the bombing occur, in order to gain Congressional approval for the use of extreme measures against that group. A congressman's son was among the casualties, and the CIA director was given a free hand in handling the terrorists. While his plans aren't actually stated in CIA records, they're implied quite clearly. The relevant memos make only oblique references, and they float in a sea of innocuous documents; if an investigating committee were to read all of the records, the evidence would be drowned out by the noise. However, a distillation of the incriminating memos would certainly convince the press.

'I send the list of memos to the Director of the CIA, with a note: "Don't bother me, and I won't bother you." He'll realize that he has no alternative.

This little episode has reinforced my opinion of the affairs of the world; I could detect clandestine ploys everywhere if I kept informed about current events, but none of them would be interesting. I shall resume my studies.

Control over my body continues to grow. By now I could walk on hot coals or stick needles in my arm, if I were so inclined. However, my interest in Eastern meditation is limited to its application to physical control; no meditative trance I can attain is nearly as desirable to me as my mental state when I assemble gestalts out of elemental data.

I'm designing a new language. I've reached the limits of conventional languages, and now they frustrate my attempts to progress further. They lack the power to express concepts that I need, and even in their own domain, they're imprecise and unwieldy. They're hardly fit for speech, let alone thought.

Existing linguistic theory is useless; I'll reevaluate basic logic to determine the suitable atomic components for my language. This language will support a dialect co-expressive with all of mathematics, so that any equation I write will have a linguistic equivalent. However, mathematics will be only a small part of the language, not the whole; unlike Leibniz, I recognize symbolic logic's limits. Other dialects I have planned will be co-expressive with my notations for aesthetics and cognition. This will be a time-consuming project, but the end result will clarify my thoughts enormously. After I've translated all that I know into this language, the patterns I seek should become evident.

I pause in my work. Before I develop a notation for aesthetics, I must establish a vocabulary for all the emotions I can imagine.

I'm aware of many emotions beyond those of normal humans; I see how limited their affective range is. I don't deny the validity of the love and angst I once felt, but I do recognize them for what they were: like the infatuations and depressions of childhood, they were just the forerunners of what I experience now. My passions now are more multifaceted; as self-knowledge increases, all emotions become exponentially more complex. I must be able to describe them fully if I'm to even attempt the composing tasks ahead.

Of course, I actually experience far fewer emotions than I could; my development is limited by the intelligence of those around me, and the scant intercourse I permit myself with them. I'm reminded of the Confucian concept of *ren*: inadequately conveyed by "benevolence," that quality which is quintessentially human, which can only be cultivated through interaction with others, and which a solitary person cannot manifest. It's one of many such qualities. And here am I, with people, people everywhere, yet not a one to interact with. I'm only a fraction of what a complete individual with my intelligence could be.

I don't delude myself with either self-pity or conceit: I can evaluate my own psychological state with the utmost objectivity and consistency. I know precisely which emotional resources I have and which I lack, and how much value I place on each. I have no regrets.

My new language is taking shape. It is gestalt-oriented, rendering it beautifully suited for thought, but impractical for writing or speech. It wouldn't be transcribed in the form of words arranged linearly, but as a giant ideogram, to be absorbed as a whole. Such an ideogram could convey, more deliberately than a picture, what a thousand words cannot. The intricacy of each ideogram would be commensurate with the amount of information contained; I amuse myself with the notion of a colossal ideogram that describes the entire universe.

The printed page is too clumsy and static for this language; the only serviceable media would be video or holo, displaying a time-evolving graphic image. Speaking this language would be out of the question, given the limited bandwidth of the human larynx.

My mind seethes with expletives from ancient and modern languages, and they taunt me with their crudeness, reminding me that my ideal language would offer terms with sufficient venom to express my present frustration.

I cannot complete my artificial language; it's too large a project for my

present tools. Weeks of concentrated effort have yielded nothing usable. I've attempted to write it via bootstrapping, by employing the rudimentary language that I've already defined to rewrite the language and produce successively fuller versions.

Yet each new version only highlights its own inadequacies, forcing me to expand my ultimate goal, condemning it to the status of a Holy Grail at the end of a divergent infinite regress. This is no better than trying to create it *ex nihilo*.

What about my fourth ampule? I can't remove it from my thoughts: every frustration I experience at my present plateau reminds me of the possibility for still greater heights.

Of course, there are significant risks. This injection might be the one that causes brain damage or insanity. Temptation by the Devil, perhaps, but temptation nonetheless. I find no reason to resist.

I'd have a margin of safety if I injected myself in a hospital, or, failing that, with someone standing by in my apartment. However, I imagine the injection will either be successful or else cause irreparable damage, so I forego those precautions.

I order equipment from a medical supply company, and assemble an apparatus for administering the spinal injection by myself. It may take days for the full effects to become evident, so I'll confine myself to my bedroom. It's possible that my reaction will be violent; I remove breakables from the room and attach loose straps to the bed. The neighbors will interpret anything they hear as an addict howling.

I inject myself and wait.

My brain is on fire, my spine burns itself through my back, I feel near apoplexy. I am blind, deaf, insensate.

I hallucinate. Seen with such preternatural clarity and contrast that they must be illusory, unspeakable horrors loom all around me, visions not of physical violence but of psychic mutilation.

Mental agony and orgasm. Terror and hysterical laughter.

For a brief moment, perception returns. I'm on the floor, hands clenched in my hair, some uprooted tufts lying around me. My clothes are soaked in sweat. I've bitten my tongue, and my throat is raw: from screaming, I surmise. Convulsions have left my body badly bruised, and a concussion is likely given the contusions on the back of my head, but I feel nothing. Has it been hours or moments?

Then my vision clouds and the roar returns.

Critical mass.

* * * * *

Revelation.

I understand the mechanism of my own thinking. I know precisely how I know, and my understanding is recursive. I understand the infinite regress of this self-knowing, not by proceeding step by step endlessly, but by apprehending the *limit*. The nature of recursive cognition is clear to me. A new meaning of the term "self-aware."

Fiat logos. I know my mind in terms of a language more expressive than any I'd previously imagined. Like God creating order from chaos with an utterance, I make myself anew with this language. It is meta-self-descriptive and self-editing; not only can it describe thought, it can describe and modify its own operations as well, at all levels. What Gödel would have given to see this language, where modifying a statement causes the entire grammar to be adjusted.

With this language, I can see how my mind is operating. I don't pretend to see my own neurons firing; such claims belong to John Lilly and his LSD experiments of the sixties. What I can do is perceive the gestalts; I see the mental structures forming, interacting. I see myself thinking, and I see the equations that describe my thinking, and I see myself comprehending the equations, and I see how the equations describe their being comprehended.

I know how they make up my thoughts.
These thoughts.

Initially I am overwhelmed by all this input, paralyzed with awareness of my self. It is hours before I can control the flood of self-describing information. I haven't filtered it away, nor pushed it into the background. It's become integrated into my mental processes, for use during my normal activities. It will be longer before I can take advantage of it, effortlessly and effectively, the way a dancer uses her kinesthetic knowledge.

All that I once knew theoretically about my mind, I now see detailed explicitly. The undercurrents of sex, aggression, and self-preservation, translated by the conditioning of my childhood, clash with and are sometimes disguised as rational thought. I recognize all the causes of my every mood, the motives behind my every decision.

What can I do with this knowledge? Much of what is conventionally described as "personality" is at my discretion; the higher-level aspects of my psyche define who I am now. I can send my mind into a variety of mental or emotional states, yet remain ever aware of the state and able to restore my original condition. Now that I understand the mechanisms that were operating when I attended to two tasks at once, I can divide my consciousness, simultaneously devoting almost full concentration and

gestalt-recognition abilities to two or more separate problems, meta-aware of all of them. What can't I do?

I know my body afresh, as if it were an amputee's stump suddenly replaced by a watchmaker's hand. Controlling my voluntary muscles is trivial; I have inhuman coordination. Skills that normally require thousands of repetitions to develop, I can learn in two or three. I find a video with a shot of a pianist's hands playing, and before long I can duplicate his finger movements without a keyboard in front of me. Selective contraction and relaxation of muscles improve my strength and flexibility. Muscular response time is thirty-five milliseconds, for conscious or reflex action. Learning acrobatics and martial arts would require little training.

I have somatic awareness of kidney function, nutrient absorption, glandular secretions. I am even conscious of the role that neurotransmitters play in my thoughts. This state of consciousness involves mental activity more intense than in any epinephrine-boosted stress situation; part of my mind is maintaining a condition that would kill a normal mind and body within minutes. As I adjust the programming of my mind, I experience the ebb and flow of all the substances that trigger my emotional reactions, boost my attention, or subtly shape my attitudes.

And then I look outward.

Blinding, joyous, fearful symmetry surrounds me. So much is incorporated within patterns now that the entire universe verges on resolving itself into a picture. I'm closing in on the ultimate gestalt: the context in which all knowledge fits and is illuminated, a mandala, the music of the spheres, *kosmos*.

I seek enlightenment, not spiritual but rational. I must go still further to reach it, but this time the goal will not be perpetually retreating from my fingertips. With my mind's language, the distance between myself and enlightenment is precisely calculable. I've sighted my final destination.

Now I must plan my next actions. First, there are the simple enhancements to self-preservation, starting with martial arts training. I will watch some tournaments to study possible attacks, though I will take only defensive action; I can move rapidly enough to avoid contact with even the fastest striking techniques. This will let me protect myself and disarm any street criminals, should I be assaulted. Meanwhile, I must eat copious amounts of food to meet my brain's nourishment requirements, even given increased efficiency in my metabolism. I shall also

shave my scalp, to allow greater radiative cooling for the heightened blood flow to my head.

Then there is the primary goal: decoding those patterns. For further improvements to my mind, artificial enhancements are the only possibility. A direct computer-mind link, permitting mind downloading, is what I need, but I must create a new technology to implement it. Anything based on digital computation will be inadequate; what I have in mind requires nano-scale structures based on neural networks.

Once I have the basic ideas laid out, I set my mind to multiprocessing: one section of my mind deriving a branch of mathematics that reflects the networks' behavior; another developing a process for replicating the formation of neural pathways on a molecular scale in a self-repairing bioceramic medium; a third devising tactics for guiding private industrial R & D to produce what I'll need. I cannot waste time: I will introduce explosive theoretical and technical breakthroughs so that my new industry will hit the ground running.

I've gone into the outside world to re-observe society. The sign language of emotion I once knew has been replaced by a matrix of interrelated equations. Lines of force twist and elongate between people, objects, institutions, ideas. The individuals are tragically like marionettes, independently animate but bound by a web they choose not to see; they could resist if they wished, but so few of them do.

At the moment I'm sitting at a bar. Three stools to my right sits a man, familiar with this type of establishment, who looks around and notices a couple in a dark corner booth. He smiles, motions for the bartender to come over, and leans forward to speak confidentially about the couple. I don't need to listen to know what he's saying.

He's lying to the bartender, easily, extemporaneously. A compulsive liar, not out of a desire for a life more exciting than his own, but to revel in his facility for deceiving others. He knows the bartender is detached, merely affecting interest—which is true—but he knows the bartender is still fooled—which is also true.

My sensitivity to the body language of others has increased to the point that I can make these observations without sight or sound: I can smell the pheromones exuded by his skin. To an extent, my muscles can even detect the tension within his, perhaps by their electric field. These channels can't convey precise information, but the impressions I receive provide ample basis for extrapolation; they add texture to the web.

Normal humans may detect these emanations subliminally. I'll work on becoming more attuned to them; then perhaps I can try consciously controlling my own expressions.

* * *

I've developed abilities reminiscent of the mind control schemes offered by tabloid advertisements. My control over my somatic emanations now lets me provoke precise reactions in others. With pheromones and muscle tension, I can cause another person to respond with anger, fear, sympathy, or sexual arousal. Certainly enough to win friends and influence people.

I can even induce a self-sustaining reaction in others. By associating a particular response with a sense of satisfaction, I can create a positive reinforcement loop, like biofeedback; the person's body will strengthen the reaction on its own. I'll use this on corporate presidents to create support for the industries I'll need.

I can no longer dream in any normal sense. I lack anything that would qualify as a subconscious, and I control all the maintenance functions performed by my brain, so normal REM sleep tasks are obsolete. There are moments when my grasp on my mind slips, but they cannot be called dreams. Meta-hallucinations, perhaps. Sheer torture. These are periods during which I'm detached: I understand how my mind generates the strange visions, but I'm paralyzed and unable to respond. I can scarcely identify what I see; images of bizarre transfinite self-references and modifications that even I find nonsensical.

My mind is taxing the resources of my brain. A biological structure of this size and complexity can just barely sustain a self-knowing psyche. But the self-knowing psyche is also self-regulating, to an extent. I give my mind full use of what's available, and restrain it from expanding beyond that. But it's difficult: I'm cramped inside a bamboo cage that doesn't let me sit down or stand up. If I try to relax, or try to extend myself fully, then agony, madness.

I'm hallucinating. I see my mind imagining possible configurations it could assume, and then collapsing. I witness my own delusions, my visions of what form my mind might take when I grasp the ultimate gestalts.

Will I achieve ultimate self-awareness? Could I discover the components that make up my own mental gestalts? Would I penetrate racial memory? Would I find innate knowledge of morality? I might determine whether mind could be spontaneously generated from matter, and understand what relates consciousness with the rest of the universe. I might see how to merge subject and object: the zero experience.

Or perhaps I'd find that the mind gestalt cannot be generated, and some sort of intervention is required. Perhaps I would see the soul, the ingredient of consciousness that surpasses physicality. Proof of God? I would behold the meaning, the true character of existence.

I would be enlightened. It must be euphoric to experience . . .
My mind collapses back into a state of sanity.

I must keep a tighter rein over my self. When I'm in control at the metaprogramming level, my mind is perfectly self-repairing; I could restore myself from states that resemble delusion or amnesia. But if I drift too far on the metaprogramming level, my mind might become an unstable structure, and then I would slide into a state beyond mere insanity. I will program my mind to forbid itself from moving beyond its own reprogramming range.

These hallucinations strengthen my resolve to create an artificial brain. Only with such a structure will I be able to actually perceive those gestalts, instead of merely dreaming about them. To achieve enlightenment, I'll need to exceed another critical mass in terms of neuronal analogs.

I open my eyes: it's two hours, twenty-eight minutes, and ten seconds since I closed my eyes to rest, though not to sleep. I rise from bed.

I request a listing of my stocks' performance on my terminal. I look down the flatscreen, and freeze.

The screen shouts at me. It tells me that there is another person with an enhanced mind.

Five of my investments have demonstrated losses; they're not precipitous, but large enough that I'd have detected them in the body language of the stockbrokers. Reading down the alphabetical list, the initial letters of the corporations whose stock values have dropped are C, E, G, O, and R. Which when rearranged, spell GRECO.

Someone is sending me a message.

There's someone else out there like me. There must have been another comatose patient who received a third injection of hormone K. He erased his file from the FDA database before I accessed it, and supplied false input to his doctors' accounts so that they wouldn't notice. He too stole another ampule of the hormone, contributing to the FDA's closing of their files, and with his whereabouts unknown to the authorities, he's reached my level.

He must have recognized me through the investment patterns of my false identities; he'd have to have been supercritical to do that. As an enhanced individual, he could have effected sudden and precise changes to trigger my losses, and attract my attention.

I check various data services for stock quotes; the entries on my listing are correct, so my counterpart didn't simply edit the values for my account alone. He altered the selling patterns of the stock of five unrelated corporations, for the sake of a word. It makes for quite a demonstration; I consider it no mean feat.

Presumably his treatment began before mine did, meaning that he is farther along than I, but by how much? I begin extrapolating his likely progress, and will incorporate new information as I acquire it.

The critical question: is he friend or foe? Was this merely a good-natured demonstration of his power, or an indication of his intent to ruin me? The amounts I lost were moderate; does this indicate concern for me, or for the corporations that he had to manipulate? Given all the harmless ways he could have attracted my attention, I must assume that he is to some degree hostile.

In which case, I am at risk, vulnerable to anything from another prank to a fatal attack. As a precaution, I will leave immediately. Obviously, if he were actively hostile, I'd be dead already. His sending a message means that he wishes us to play games. I'll have to place myself on equal terms with him: hide my location, determine his identity, and then attempt to communicate.

I pick a city at random: Memphis. I switch off the flatscreen, get dressed, pack a travel bag, and collect all the emergency cash in the apartment.

¶

In a Memphis hotel, I begin working at the suite's datanet terminal. The first thing I do is reroute my activities through several dummy terminals; to an ordinary police trace, my queries will appear to originate from different terminals all over the state of Utah. A military intelligence facility might be able to track them to a terminal in Houston; continuing the trace to Memphis would try even me. An alarm program at the Houston terminal will alert me if someone has successfully traced me there.

How many clues to his identity has my twin erased? Lacking all FDA files, I'll begin with the files of courier services in various cities, looking for deliveries from the FDA to hospitals during the time of the hormone K study. Then a check of hospital brain-damage cases at that time, and I'll have a place to start.

Even if any of this information remains, it's of minor value. What will be crucial is an examination of the investment patterns, to find the traces of an enhanced mind. This will take time.

His name is Reynolds. He's originally from Phoenix, and his early progress closely parallels mine. He received his third injection six months and four days ago, giving him a head start over me of fifteen days. He didn't erase any of the obvious records. He waits for me to find him. I estimate that he's been supercritical for twelve days, twice as long as I've been.

I now see his hand in the investment patterns, but the task of locating

Reynolds is Herculean. I examine usage logs across the datanet to identify the accounts he's penetrated. I have twelve lines open on my terminal. I'm using two single-hand keyboards and a throat-mike, so I can work on three queries simultaneously. Most of my body is immobile; to prevent fatigue, I'm insuring proper blood flow, regular muscle contraction and relaxation, and removal of lactic acid. While I absorb all the data I see, studying the melody within the notes, looking for the epicenter of a tremor in the web.

Hours pass. We both scan gigabytes of data, circling each other.

His location is Philadelphia. He waits for me to arrive.

I'm riding in a mud-splattered taxi to Reynolds's apartment.

Judging by the databases and agencies Reynolds has queried over the past months, his private research involves bio-engineered microorganisms for toxic waste disposal, inertial containment for practical fusion, and subliminal dissemination of information through societies of various structures. He plans to save the world, to protect it from itself. And his opinion of me is therefore unfavorable.

I've shown no interest in the affairs of the external world, and made no investigations for aiding the normals. Neither of us will be able to convert the other. I view the world as incidental to my aims, while he cannot allow someone with enhanced intelligence to work purely in self-interest. My plans for mind-computer links will have enormous repercussions for the world, provoking government and popular reactions that would interfere with his plans. As I am proverbially not part of the solution, I am part of the problem.

If we were members of a society of enhanced minds, the nature of human interaction would be of a different order. But in this society, we have unavoidably become juggernauts, by whose measure the actions of normals are inconsequential. Even if we were twelve thousand miles apart we couldn't ignore each other. A resolution is necessary.

Both of us have dispensed with several rounds of games. There are a thousand ways we could have attempted to kill the other, from painting contact poison on a doorknob to ordering a surgical strike from a military killsat. We both could have swept the physical area and datanet for each of the myriad possibilities beforehand, and set more traps for each other's sweeps. But neither of us has done any of that, has felt a need to check for those things. A simple infinite regression of second-guessing and double-thinking has dismissed those. What will be decisive are those preparations that we could not predict.

The taxi stops; I pay the driver and walk up to the apartment building.

The electric lock on the door opens for me. I take off my coat and climb four flights.

The door to Reynolds' apartment is also open. I walk down the entryway to the living room, hearing a hyperaccelerated polyphony from a digital synthesizer. Evidently it's his own work; the sounds are modulated in ways undetectable to normal hearing, and even I can't discern any pattern to them. An experiment in high-information-density music, perhaps.

There is a large swivel chair in the room, its back turned toward me. Reynolds is not visible, and he is restricting his somatic emanations to comatose levels. I imply my presence and my recognition of his identity.

<Reynolds.>

Acknowledgement. <Greco.>

The chair turns around smoothly, slowly. He smiles at me and shuts off the synthesizer at his side. Gratification. <A pleasure to meet you. >

To communicate, we are exchanging fragments from the somatic language of the normals: a shorthand version of the vernacular. Each phrase takes a tenth of a second. I give a suggestion of regret. < A shame it must be as enemies. >

Wistful agreement, then supposition. <Indeed. Imagine how we could change the world, acting in concert. Two enhanced minds; such an opportunity missed. >

True, acting cooperatively would produce achievements far outstripping any we might attain individually. Any interaction would be incredibly fruitful: how satisfying it would be to simply have a discussion with someone who can match my speed, who can offer an idea that is new to me, who can hear the same melodies I do. He desires the same. It pains us both to think that one of us will not leave this room alive.

An offer. <Do you wish to share what we've learned in the past six months? >

He knows what my answer is.

We will speak aloud, since somatic language has no technical vocabulary. Reynolds says, quickly and quietly, five words. They are more pregnant with meaning than any stanza of poetry: each word provides a logical toehold I can mount after extracting everything implicit in the preceding ones. Together they encapsulate a revolutionary insight into sociology; using somatic language he indicates that it was among the first he ever achieved. I came to a similar realization, but formulated it differently. I immediately counter with seven words, four that summarize the distinctions between my insight and his, and three that describe a non-obvious result of the distinctions. He responds.

We continue. We are like two bards, each cueing the other to extemporize another stanza, jointly composing an epic poem of knowledge. Within

moments we accelerate, talking over each other's words but hearing every nuance, until we are absorbing, concluding, and responding, continuously, simultaneously, synergistically.

Many minutes pass. I learn much from him, and he from me. It's exhilarating, to be suddenly awash in ideas whose implications would take me days to exhaust. But we're also gathering strategic information: I infer the extent of his unspoken knowledge, compare it with my own, and simulate his corresponding inferences. For there is always the awareness that this must come to an end; the formulation of our exchanges renders ideological differences luminously clear.

Reynolds hasn't witnessed the beauty that I have; he's stood before lovely insights, oblivious to them. The sole gestalt that inspires him is the one I ignored: that of the planetary society, of the biosphere. I am a lover of beauty, he of humanity. Each feels that the other has ignored great opportunities.

He has an unmentioned plan for establishing a global network of influence, to create world prosperity. To execute it, he'll employ a number of people, some of whom he'll give simple heightened intelligence, some meta-self awareness; a few of them will pose threats to him. <Why assume such a risk for the sake of the normals?>

<Your indifference toward the normals would be justified if you were enlightened; your realm wouldn't intersect theirs. But as long as you and I can still comprehend their affairs, we can't ignore them.>

I can measure the distance between our respective moral stances precisely, see the stress between their incompatible radiating lines. What motivates him is not simply compassion or altruism, but something that entails both those things. On the other hand, I concentrate only on understanding the sublime. <What about the beauty visible from enlightenment? Doesn't it attract you?>

<You know what kind of structure would be required to hold an enlightened consciousness. I have no reason to wait the time it would take to establish the necessary industries.>

He considers intelligence to be a means, while I view it as an end in itself. Greater intelligence would be of little use to him. At his present level, he can find the best possible solution to any problem within the realm of human experience, and many beyond. All he'd require is sufficient time to implement his solution.

There's no point in further discussion. By mutual assent, we begin.

It's meaningless to speak of an element of surprise when we time our attacks; our awareness can't become more acute with forewarning. It's not affording a courtesy to each other when we agree to begin our battle, it's actualizing the inevitable.

In the models of each other that we've constructed from our inferences, there are gaps, lacunae: the internal psychological developments and discoveries that each has made. No echoes have radiated from those spaces, no strands have tied them to the world web, until now.

I begin.

I concentrate on initiating two reinforcing loops in him. One is very simple: it increases blood pressure rapidly and enormously. If it were to continue unchecked for over a second, this loop would raise his blood pressure to stroke levels—perhaps 300 over 200—and burst capillaries in his brain.

Reynolds detects it immediately. Though it's clear from our conversation that he never investigated the inducement of biofeedback loops in others, he recognizes what is happening. Once he does, he reduces his heart rate and dilates the blood vessels throughout his body.

But it is the other, subtler reinforcing loop that is my real attack. This is a weapon I've been developing ever since my search for Reynolds began. This loop causes his neurons to dramatically overproduce neurotransmitter antagonists, preventing impulses from crossing his synapses, shutting down brain activity. I've been radiating this loop at a much higher intensity than the other.

As Reynolds is parrying the ostensible attack, he experiences a slight weakening of his concentration, masked by the effects of the heightened blood pressure. A second later, his body begins to amplify the effect on its own. Reynolds is shocked to feel his thoughts blurring. He searches for the precise mechanism: he'll identify it soon, but he won't be able to scrutinize it for long.

Once his brain function has been reduced to the level of a normal, I should be able to manipulate his mind easily. Hypnotic techniques can make him regurgitate most of the information his enhanced mind possesses.

I inspect his somatic expressions, watching them betray his diminishing intelligence. The regression is unmistakable.

And then it stops.

Reynolds is in equilibrium. I'm stunned. He was able to break the reinforcing loop. He has stopped the most sophisticated offensive I could mount.

Next, he reverses the damage already done. Even starting with reduced capabilities, he can correct the balance of neurotransmitters. Within seconds, Reynolds is fully restored.

I too was transparent to him. During our conversation he deduced that I had investigated reinforcing loops, and as we communicated, he derived a general preventative without my detecting it. Then he observed the specifics of my particular attack while it was working, and learned how

to reverse its effects. I am astonished at his discernment, his speed, his stealth.

He acknowledges my skill. <A very interesting technique; appropriate, given your self-absorption. I saw no indication when—> abruptly he projects a different somatic signature, one that I recognize. He used it when he walked behind me at a grocery store, three days ago. The aisle was crowded; around me were an old woman, wheezing behind her air filter, and a thin teenager on an acid trip, wearing a liquid crystal shirt of shifting psychedelic patterns. Reynolds slipped behind me, his mind on the porn mag stands. His surveillance didn't inform him of my reinforcing loops, but it did permit a more detailed picture of my mind.

A possibility I anticipated. I reformulate my psyche, incorporating random elements for unpredictability. The equations of my mind now bear little resemblance to those of my normal consciousness, undermining any assumptions Reynolds may have made, and rendering ineffectual any psyche-specific weapons of his.

I project the equivalent of a smile.

Reynolds smiles back. <Have you ever considered—> Suddenly he projects only silence. He is about to speak, but I can't predict what. Then it comes, as a whisper: “—self-destruct commands, Greco?”

As he says it, a lacuna in my reconstruction of him fills and overflows, the implications coloring all that I know about him. He means the Word: the sentence that, when uttered, would destroy the mind of the listener. Reynolds is claiming that the myth is true, that every mind has such a trigger built in; that for every person, there is a sentence that can reduce him to an idiot, a lunatic, a catatonic. And he is claiming he knows the one for me.

I immediately tune out all sensory input, directing it to an insulated buffer of short-term memory. Then I conceive a simulator of my own consciousness to receive the input and absorb it at reduced speed. As a metaprogrammer I will monitor the equations of the simulation indirectly. Only after the sensory information has been confirmed as safe will I actually receive it. If the simulator is destroyed, my consciousness should be isolated, and I'll retrace the individual steps leading to the crash and derive guidelines for reprogramming my psyche.

I get everything in place by the time Reynolds has finished saying my name; his next sentence could be the destruct command. I'm now receiving my sensory input with a one hundred and twenty millisecond time lag. I reexamine my analysis of the human mind, explicitly searching for evidence to verify his assertion.

Meanwhile I give my response lightly, casually. <Hit me with your best shot.>

<Don't worry; it's not on the tip of my tongue.>

My search produces something. I curse myself: there's a very subtle back door to a psyche's design, which I lacked the necessary mindset to notice. Whereas my weapon was one born of introspection, his is something only a manipulator could originate.

Reynolds knows that I've built my defenses; is his trigger command designed to circumvent them? I continue deriving the nature of the trigger command's actions.

<What are you waiting for?> He's confident that additional time won't allow me to construct a defense.

<Try to guess.> So smug. Can he actually toy with me so easily?

I arrive at a theoretical description of a trigger's effects on normals. A single command can reduce any subcritical mind to a *tabula rasa*, but an undetermined degree of customization is needed for enhanced minds. The erasure has distinctive symptoms, which my simulator can alert me to, but those are symptoms of a process calculable by me. By definition the destruct command is that specific equation beyond my ability to imagine; would my metaprogrammer collapse while diagnosing the simulator's condition?

<Have you used the destruct command on normals?> I begin calculating what's needed to generate a customized destruct command.

<Once, as an experiment on a drug dealer. Afterward I concealed the evidence with a blow to the temple.>

It becomes obvious that the generation is a colossal task. Generating a trigger requires intimate knowledge of my mind; I extrapolate what he could have learned about me. It appears to be insufficient, given my regrogramming, but he may have techniques of observation unknown to me. I'm acutely aware of the advantage he's gained by studying the outside world.

<You will have to do this many times.>

His regret is evident. His plan can't be implemented without more deaths: those of normal humans, by strategic necessity, and those of a few enhanced assistants of his, whose temptation by greater heights would interfere. After using the command, Reynolds may reprogram them—or me—as idiot savants, having focused intentions and restricted self-metaprogrammers. Such deaths are a necessary cost of his plan.

<I make no claims of being a saint.>

Merely a savior.

Normals might think him a tyrant, because they mistake him for one of them, and they've never trusted their own judgment. They can't fathom that Reynolds is equal to the task. His judgment is optimal in questions of their affairs, and their notions of greed and ambition do not apply to an enhanced mind.

In a histrionic gesture, Reynolds raises his hand, forefinger extended,

as if to make a point. I don't have sufficient information to generate his destruct command, so for the moment I can only attend to defense. If I can survive his attack, I may have time to launch another one of my own.

With his finger upraised, he says, "Understand."

At first I don't. And then, horrifyingly, I do.

He didn't design the command to be spoken; it's not a sensory trigger at all. It's a memory trigger: the command is made out of a string of perceptions, individually harmless, that he planted in my brain like time bombs. The mental structures that were formed as a result of those memories are now resolving into a pattern, forming a gestalt that defines my dissolution. I'm intuiting the Word myself.

Immediately my mind is working faster than ever before. Against my will, a lethal realization is suggesting itself to me. I'm trying to halt the associations, but these memories can't be suppressed. The process occurs inexorably, as a consequence of my awareness, and like a man falling from a height, I'm forced to watch.

Milliseconds pass. My death passes before my eyes.

An image of the grocery store when Reynolds passed by. The psychedelic shirt the boy was wearing; Reynolds had programmed the display to implant a suggestion within me, ensuring that my "randomly" reprogrammed psyche remained receptive. Even then.

No time. All I can do is metaprogram myself over randomly, at a furious pace. An act of desperation, possibly crippling.

The strange modulated sounds that I heard when I first entered Reynolds' apartment. I absorbed the fatal insights before I had any defenses raised.

I tear apart my psyche, but still the conclusion grows clearer, the resolution sharper.

Myself, constructing the simulator. Designing those defense structures gave me the perspective needed to recognize the gestalt.

I concede his greater ingenuity. It bodes well for his endeavor. Pragmatism avails a savior far more than aestheticism.

I wonder what he intends to do after he's saved the world.

I comprehend the Word, and the means by which it operates, and so I dissolve. ●



PRESS ANN

by Terry Bisson

Terry Bisson's wonderful short story, "Bears Discover Fire" (IASFM, August 1990), is both a finalist for the Nebula Award, and the winner of our Fifth Annual Readers' Award. Mr. Bisson returns to our pages with a heart-warming look at a modern fairy godmother.

WELCOME TO CASH-IN-A-FLASH
1342 LOCATIONS
TO SERVE YOU CITYWIDE
PLEASE INSERT YOUR CASH-IN-A-FLASH CARD

THANK YOU
NOW ENTER YOUR CASH-IN-A-FLASH NUMBER

THANK YOU
PLEASE SELECT DESIRED SERVICE—
DEPOSIT
WITHDRAWAL
BALANCE
WEATHER

"Weather?"
"What's the problem, Em?"
"Since when do these things give the weather?"
"Maybe it's some new thing. Just get the cash, it's 6:22 and we're going to be late."

WITHDRAWAL

THANK YOU
WITHDRAWAL FROM—
SAVINGS
CHECKING
CREDIT LINE
OTHER

CHECKING

THANK YOU
PLEASE ENTER DESIRED AMOUNT—

\$20
\$60
\$100
\$200

\$60

\$60 FOR A MOVIE?

“Bruce, come over here and look at this.”
“Emily, it’s 6:26. The movie starts at 6:41.”
“How does the cash machine know we’re going to the movie?”
“What are you talking about? Are you mad because you have to get the money, Em? Can I help it if a machine ate my card?”
“Never mind. I’ll try it again.”

\$60

\$60 FOR A MOVIE?

“It just did it again.”
“Did what?”
“Bruce, come over here and look at this.”
“\$60 for a movie?”
“I’m getting money for dinner, too. It is my birthday after all, even if I have to plan the entire party. Not to mention get the money to pay for it.”
“I can’t believe this. You’re mad at me because a machine ate my card.”
“Forget it. The point is, how does the cash machine know we’re going to a movie?”
“Emily, it’s 6:29. Just press *Enter* and let’s go.”
“Okay, okay.”

WHO IS THE GUY WITH THE WATCH?

BOYFRIEND
HUSBAND
RELATIVE
OTHER

"Bruce!"

"Emily, it's 6:30. Just get the money and let's go."

"Now it's asking me about you."

"6:31!"

"Okay!"

OTHER

"Excuse me, do you two mind if I . . ."

"Look, pal, there's a problem with this machine. There's another cash machine right down the street if you're in such a goddamn hurry."

"Bruce! Why be rude?"

"Forget it, he's gone."

HAPPY BIRTHDAY EMILY

WOULD YOU LIKE—

DEPOSIT
WITHDRAWAL
BALANCE
WEATHER

"How does it know it's my birthday?"

"Jesus, Em, it's probably coded in your card or something. It is now 6:34 and in exactly seven minutes . . . what the hell is this? *Weather*?"

"That's what I've been trying to tell you."

"You're not going to press it!"

"Why not?"

WEATHER

THANK YOU

SELECT DESIRED CONDITIONS—

COOL AND CLOUDY
FAIR AND MILD
LIGHT SNOW
LIGHT RAIN

"Em, will you quit playing around!"

LIGHT RAIN

"Rain? On your birthday?"

"Just a light rain. I just want to see if it works. We're going to the movie anyway."

"Not if we don't get out of here."

PERFECT MOVIE WEATHER

WOULD YOU LIKE—

DEPOSIT

WITHDRAWAL

BALANCE

POPCORN

"Em, this machine is seriously fucked up."

"I know. I wonder if you get butter."

"It's 6:36. Just press *Withdrawal* and let's get the hell out of here. We have five minutes until the movie starts."

WITHDRAWAL

THANK YOU

WITHDRAWAL FROM—

SAVINGS

CHECKING

CREDIT LINE

OTHER

"Excuse me. Are you two going to see *Gilded Palace of Sin*?"

"Shit. Look who's back."

"I was just at the theater and the newspaper had the time listed wrong. According to the box office, the movie starts at 6:45. So you have nine minutes."

"I thought you were at the other machine."

"There's a line and I didn't want to stand outside in the rain."

"Rain? Bruce, look!"

"It's just a light rain. But I'm wearing my good suit."

OTHER

"Emily, it's 6:37 and you're pressing *Other*?"

"Don't you want to see what else this machine can do?"

"No!"

THANK YOU

CHOOSE OTHER ACCOUNT—

ANDREW

ANN

BRUCE

"Who the hell are Andrew and Ann? And how the hell did my name get in there?"

"You told me the machine ate your card."

"That was—another machine."

"Excuse me. Ann is my fiancée. Well, was. Sort of. I thought."

"Are you butting in again?"

"Wait! You must be . . ."

"Andrew. Andrew P. Claiborne III. You must be Emily. And he must be . . ."

"He's Bruce. Don't mind him if he's a little uncouth."

"Uncouth!"

BRUCE

"Hey, that's my account, Emily. You don't have any right to press *Bruce*!"

"Why not? You say you wanted to pay for dinner and the movie, but the machine ate your card. So let's go for it."

GO FOR IT, EMILY

PLEASE ENTER DESIRED AMOUNT—

\$20

\$60

\$100

\$200

\$60

SORRY. INSUFFICIENT FUNDS. WANT TO TRY FOR \$20?

\$20

SORRY. INSUFFICIENT FUNDS.

WOULD YOU LIKE A BALANCE CHECK?

"No!"

YES

BRUCE'S BALANCE: \$11.78
SURPRISED?

"Surprised? I'm furious! Some birthday celebration! You didn't even have enough to pay for a movie, much less dinner! And you lied!"

"Excuse me, it's your birthday? It's my birthday too!"

"You stay out of this, Andrew or whatever the fuck your name is."

"Don't be vulgar, Bruce. He has an absolutely perfect right to wish me a happy birthday."

"He's not wishing you a happy birthday, he's butting into my life."

"Allow me to wish you a very happy birthday, Emily."

"And to you, Andrew, the very same."

"Plus he's an asshole!"

NO NAME CALLING PLEASE
WOULD YOU LIKE ANOTHER BALANCE CHECK?

BRUCE

EMILY

ANDREW

ANN

"Ann is your girlfriend?"

"Was. She just stood me up for the last time."

"How terrible! On your birthday! Andrew, I know exactly how you feel."

"As a matter of fact, you're both a couple of assholes!"

NO NAME CALLING PLEASE
EMILY AND ANDREW,
PLEASE ALLOW ME TO TREAT YOU
TO A BIRTHDAY DINNER AND A FILM

"A hundred dollars! Andrew, look!"

"It says it's treating us. Take it, Emily."

"You can call me Em."

"I can't fucking believe this!"

"We'd better hurry. Excuse me, Bruce, old pal, do you have the time?"

"6:42. Asshole."

"If we run, we can catch the 6:45. Then, how about Sneaky Pete's?"

"I love Tex-Mex!"

PLEASE REMOVE YOUR CARD
DON'T FORGET TO TRY
THE BLACKENED FAJITAS

"You're all three assholes! I can't fucking believe this. She left with him!"

WELCOME TO CASH-IN-A-FLASH
1342 LOCATIONS
TO SERVE YOU CITYWIDE
PLEASE DON'T KICK THE MACHINE

"Go to hell!"

PLEASE INSERT YOUR CASH-IN-A-FLASH CARD

"Fuck you."

GO AHEAD, BRUCE
WHAT HAVE YOU GOT TO LOSE?

THANK YOU
IT WASN'T 'EATEN' AFTER ALL, WAS IT?

"You know it wasn't. Asshole."

NO NAME CALLING PLEASE
WOULD YOU LIKE—
SYMPATHY
REVENGE
WEATHER
ANN

"Excuse me."

"Jesus, lady, quit banging on the door. I know it's raining. Tough shit. I'm not going to let you in. This is a cash machine, not a homeless shelter. You're supposed to have a card or something. What?"

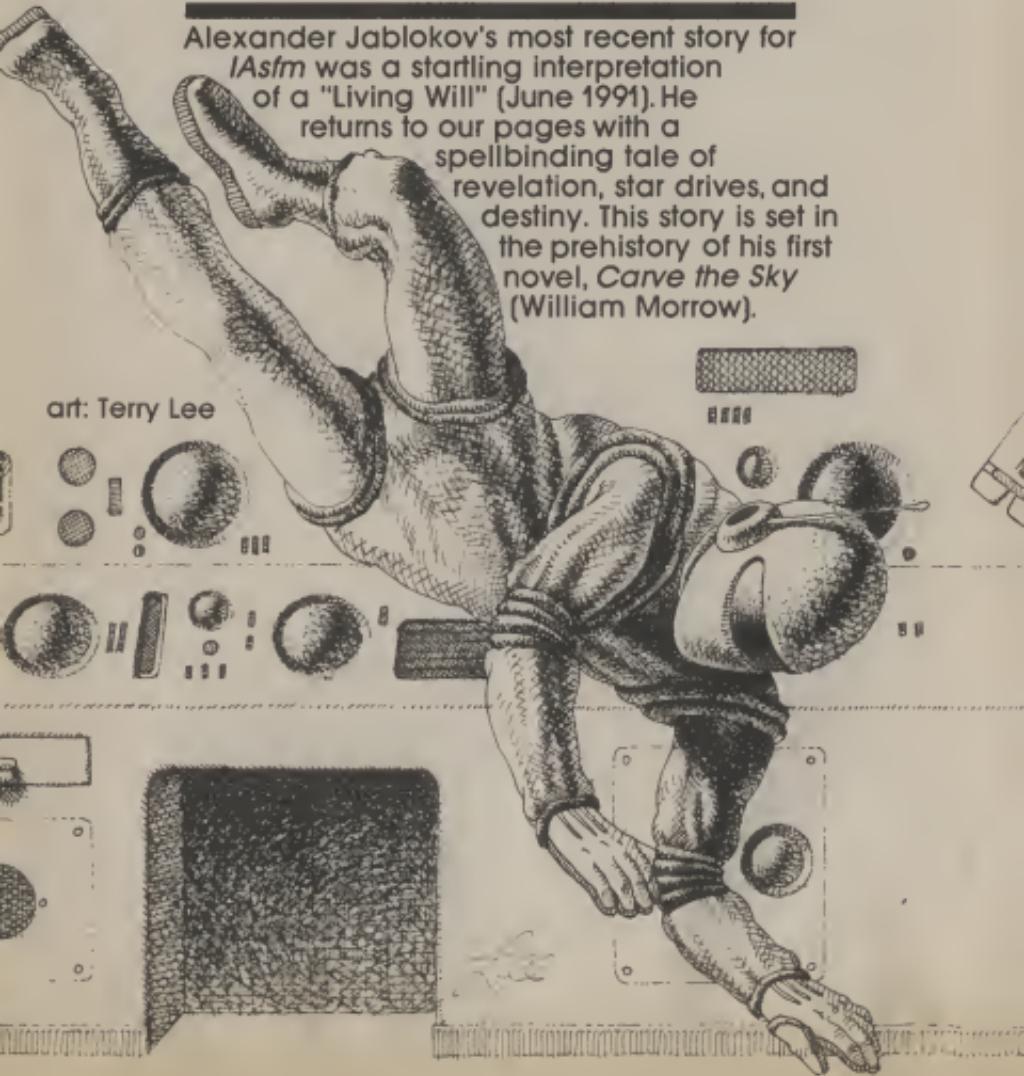
"I said, shut up and press Ann." ●

THE BREATH OF SUSPENSION

by Alexander Jablokov

Alexander Jablokov's most recent story for *1Asfm* was a startling interpretation of a "Living Will" (June 1991). He returns to our pages with a spellbinding tale of revelation, star drives, and destiny. This story is set in the prehistory of his first novel, *Carve the Sky* (William Morrow).

art: Terry Lee





When the knock comes, it wakes me from a light doze. I was drifting through endless layers of thin clouds, lit from below. I try to convince myself that I was meditating—on what, the diaphanous undergarments that clothe the ever-incomprehensible Godhead? I am an old man, I need my rest, and acknowledge my weaknesses. I can still lie to others, but the time has passed when I must needs lie to myself.

“Come in, Thomas.” I hope that he doesn’t recognize the spuriously resonant tone of a man caught napping.

Brother Thomas drifts in with the soft step of a courtier. His flaxen hair bristles like uncut hay. When I first met him, I thought Thomas was extremely young, but he must be near thirty. The innocence of his gaze gives him his youth.

“They finally came.” He is pleased to be the one to bring me the news.
“Show me.”

He puts the package on the table and unwraps it. I move the devotional cross away to give him more room. The thing is enormously heavy and seems intended for physical as well as spiritual exercise. It leaves yet another scratch on the table’s worn surface. Even in darkness I can feel the patterns of my devotion upon it with my fingertips.

Together, we huddle over the tiny wonders revealed in the fitful candle-light. The charge-coupled devices are precise circuits from a different world than the Monastery of St. Sergius.

Thomas stares at them in awe. “What do they do?”

He’s a wise one, I’m coming to realize. Not “what are they?” but “what do they do?” He knows the right questions. What questions did he ask in the past that the answer to them is St. Sergius’s?

“They amplify light by bouncing electrons around. More than that, Thomas, I don’t know. I just know that I need them to complete the work.”

As if to mock me, one of the tallow candles sputters. These are an unsuccessful experiment of Hegumen Afonse’s. The local power grid gives us electricity only four hours out of twenty-four and the Hegumen likes to conserve our fuel cells. And beeswax is reserved for the candles that illuminate the saints in church. The tallow candles stink and attract insects. With the CCD’s, my circuits could focus the light of that candle from a hundred kilometers away. Under the table sit hydrogen fuel cells designed to power an interplanetary spacecraft’s lifesystem. We live in a world of irrelevant miracles.

Thomas picks up a CCD and holds it in his hand. It is as light as the carapace of a dead insect. “The Hegumen wanted to wait until morning. But I thought you would want to see this as soon as possible. They must have cost you a lot.”

“I thank both you and the Hegumen for your separate concerns. Cost? It’s greater than you think, not being in money. There are still some left at Court who are willing to do an old man favors. These, I think, are the

last favors anyone will ever do me. All are now long called in." Am I sounding maudlin? It must be the hour. I have long ago accustomed myself to a mood of steely resolve. It is only late at night, with death pushing itself against the windowpanes, that I forget.

Thomas looks at me curiously. "Does the Hegumen know what you wanted these for?"

"Eh? I suppose he has no idea. He just wants to keep his pet Court refugee happy. He doesn't know how futile it is. I'm here in this midget twenty-monk monastery in Pennsylvania under special Patriarchal dispensation and God only knows what changes back in Moscow could raise me back into a position of power. The Hegumen thinks he's being shrewd. I'm not going to disabuse him, as long as I can get what I need."

Brother Thomas endures this outburst calmly. To him I link holiness with secular power, a potent combination. He permits me my quirks, unusual forbearance in a young man.

"So," he says, setting the CCD back on the table as delicately as if it is a holy relic. "Are you going to see her now?"

His blue eyes shine. He is in the presence of the one fleshly link left to St. Aya Ngomo: the holy Vikram Osten who rose to high power and was then struck down because of his stalwart devotion to his saint.

I cannot meet his gaze. I turn away and pull the cloth from the image-multiplier telescope, a lumpy piece of work. The crude welds are my own. There's a monk at St. Sergius's who could have done a better job, a former pipe mender, but I owed it to Aya to do the work myself. She had always felt that I was, in some deep sense, useless.

It's taken me almost five years to put the whole thing together, five years since I finally realized what I had to do. In that time, Aya's gotten more than four light years farther away. And I have gotten that much closer to death.

Sometimes when I walk I can feel the wind blow clean through me, as if it's forgotten I'm there. I'm just a tattered coat on a stick, with thin white hair. Well, let's be completely honest. It's a sticky pale yellow, like a tallow candle. The pathetic vanity of the old is never anything but disgusting.

I turn and open the shutters on the night. I always delay it, the way I sometimes used to delay taking a drink during my years of exile from Court. It's a teasing game and proves my will. The shutters slam back against the wall. Six of St. Sergius's monks are sleeping in the small stone building opposite but their sleep is as heavy as their souls and they don't wake up. That desperate nocturnal bang is long familiar to them.

It's finally time. I raise my eyes from the dark and silent monastery to that sky from which St. Sergius's and our whole world hang merely pendant. There was some high cirrus earlier in the day but now the air is transparent. The Milky Way splashes across the sky. Jupiter is low in the west. I lean out of the window and look toward the east into the constellation Coma Berenices. Up there, pointed toward the Galactic North, at +29 degrees declination, 12h 57m right ascension, is the flare

of a hydrogen fusion flame, its absorption spectrum shifted viciously into the red, pushing the barrier of light speed, that Nirvana of the macroscopic world. It's Aya Ngomo's ship, heading God knows where. I can't see it with my naked eyes. I try to, every night. I try now. I stare upward until my eyes tear in the wind. I cannot float up through the window after her. My soul is still tied to the dross of my flesh. And why, if the flesh no longer brings the pleasures it once did? Then I close the shutters and turn back to the image multiplier.

Thomas sits alertly, like a hunting dog waiting for his master's call. To him that invisible speck of light is a relic, like the joint of a saint's forefinger or a handkerchief dipped in a martyr's blood. He barely dares breathe as I proceed through my devotions. I should ask him to leave. I don't, because I suspect my historical contact with holiness is not the only reason he is here. He does, after all, sleep near the Hegumen. Afonse thinks that he is the Archimandrite of a vast metropolitan monastery, and often awakens poor Thomas to dictate an important memo on the remortaring of a wall. It isn't easy being *parkoimomenus*—one who sleeps near. For a long time I "slept near" the Dispenser of the Atlantic, Master Tergenius. So I know that sometimes it is better to remain awake than be roused from sleep suddenly too sweet. As long as one is truly awake.

"Here, Thomas." He joins me at the image multiplier. His fingers are nimbler than mine. I always fear that I will break some irreplaceable part.

He takes a deep breath. "Will you let me look? When we finish with this machine?" The words come in a rush.

"Eh?" His face is flushed and he does not meet my eye. "You wish to see the glow of St. Aya Ngomo?" He nods. "Is that for my sake, or for hers?"

If he senses a selfish motive in the question he does not admit it. "For both. How can they be separated? The both of you—it has been an honor for me, did I tell you that?" Thomas, usually a model of imperturbable dignity, is babbling. "To have gone so high and then to have renounced the things of this world . . . when I came here to St. Sergius's I had no idea that I would find such a clear signpost to God—"

"Don't be absurd." My tone is gentle, but I am afraid. Afraid of being loved, as I have so often been, for the wrong reasons. Still, is that worse than not being loved at all? "My sacrifices, if such they were, were my own. I can't serve as an example to anyone else."

He nods, not meeting my eyes. "I understand."

He doesn't. I did not renounce the things of this earth. I had them taken from me. Heaven and hell know no greater difference.

"But you, my young Thomas. What do you know of sacrifice? I'm afraid you've come to this monastery too early." I adopt a didactic tone. "To give up the world one must first possess it."

For a long time he is silent. "I have possessed it." His voice is compressed, as if someone else has a hand on his throat. "I possessed all of it that mattered." He takes a deep breath and stares off into space.

An apology would be pointless. God only knows what festering sin I have so incautiously flicked. I sit down at the table opposite him, one hand on the image multiplier. "I think you deserve a story. For your good work, Thomas. The story of how I met Aya Ngomo, Saint of the Outer Spaces."

He is galvanized. His personal pain is forgotten, or at least concealed, as he leans anxiously toward me. Nothing about my own life would interest him as much. But St. Aya Ngomo focuses him. Perhaps what I know of her can teach him something about me.

"When I was young," I say, beginning with the most painful words an old man knows.

The Monastery of St. Thecla, 2121

When I was young, I believed that if I held my breath completely, totally, not letting a single molecule of air escape, I would float weightless up through the sky. I spent summers jumping from the sycamore tree behind my parents' house in Mackinac, longing to part the clouds.

So it was that I came to be lying, one bright early-winter morning, on the floor of a roofless summer house half-filled with beach sand, staring up at the sky and feeling my lungs burn. Layers of multicolored wallpaper peeled from the walls like the tattered pages of a long-unread book. Sand trickled down the neck of my cassock. My pectoral cross, having caught on a projecting door frame and almost strangled me, hung on a nail. Winter sand is cold and hard, carrying with it the memory of its glacial origins. I felt it press against my back with resentful solidity. Surf hissed foaming across the hard-packed beach, lapping at the leaning walls. I let my breath out slowly. I was staying here.

I was seventeen years old and absolutely miserable. My family had dropped me into the Monastery of St. Thecla with stern admonitions and would not be back for me for—I calculated though I already knew the answer—another ten months. Another ten months with St. Thecla—and Brother Michael.

It was an Osten family tradition that each member spent a year in a proper Orthodox monastery before assuming his life's responsibilities. Even my Uncle Cosmas, luxurious and corrupt as an old wine is corrupt, spoiled in just the right way, had spent a year in a monastery in the Upper Peninsula of Michigan. He claimed to remember it fondly. Though he was known in the family as an excellent liar, I didn't believe him.

The tradition dated back to my grandfather's time, when a majority of the Wisconsin Lutheran Synod converted en masse to the victorious Orthodoxy. Being early Persuaded had always given the Osten family high status, since the things that are Caesar's are available only to those who have granted to God the things that are His. In my case, that included a year of my life.

I had been told all these things, but they did not console me. Just the

previous night . . . I sat up. The memory still seared. Below me, Lake Michigan had swallowed up half the house, sucking at it until only the foundations remained. The beach here was cut with ancient boat slips and piers. Traces of this house's dock still remained as a line of weathered gull perches, driftwood piled against it. Out beyond it the pointed-arch outline of a sunken pleasure boat could be seen through the clear water. It seemed to have settled placidly at its mooring, forgotten by masters simply attempting to survive during the wars of the twenty-first century.

Above me were the buildings of the monastery, peeping over the edge of the sand dune. The nucleus of the Monastery of St. Thecla had been a cluster of old summer dwellings much like the one I was currently feeling sorry for myself in. Maple and oak trees had sprouted through the sidewalks and dune cherries clambered over the toppled fences. Wild grapes covered the walls. Traces of ancient pleasures were scattered through the sands. I remember that after one heavy winter storm a stretch of the old macadam beach road reappeared, like some dweller of the deep seas coming to the surface to see if the sun was still there. A few weeks and sand covered it again.

The monks had rebuilt the shattered buildings, adding chapels, dining halls, an MHD generator, and a water filtration plant. If anyone noticed the unfortunate symbolism of building a monastery on sand dunes, he was not unwise enough to mention it. Even I knew better. St. Thecla's was the personal monastery of the Patriarch of Milwaukee and dominated the affairs of the Michigan coast between Manistee and Traverse City. I understand that it's still there, still fighting the ever-hungry sand and lake, though it will soon succumb like the rest of us.

A skein of geese quacked by overhead on its way south. I could see the sun flashing on their wings against the dark sky. I couldn't join them. I was stuck here at St. Thecla's with the odious Brother Michael, the life-monk who served as my spiritual guide. My eyes stung with remembered humiliation.

The previous night I had awakened with a chill. The thin wool blanket the monastery had provided was completely inadequate. I shivered desperately.

The dormitory was dark. "Michael," I said. "I'm cold."

He was awake instantly. "Eh? What's that?"

"I said I'm cold, dammit."

"Thank the Lord you're alive to feel it, then."

"Michael, I'm freezing. Do you understand me?"

"No, boy, I don't understand you. I don't understand you at all." His voice boomed, waking everyone else up. I was mortified. He looked around. "Vikram's cold. Is everyone able to hear that?"

There was a low murmur. We got little enough sleep as it was and here this buffoon was putting the blame on me for waking everyone up.

"Wait. All I said was—"

"Here. Stay warm, little man."

Brother Michael, a big, red-faced man, stood from his cot and with a

contemptuous gesture flung his own blanket over me. Then he lay back down, closed his eyes, and affected sleep. I could see his breath steam. He shivered slightly. All right then. I could stand his contempt as long as I was warm myself. I composed myself for sleep.

Suddenly someone else came up and threw his blanket over me. A moment later another. Then another.

"Damn you all!" I struggled up as blanket after blanket was flung over my head. When it was done, thirteen monks slept freezing and uncovered on their cots, and I lay with their blankets piled on top of me, suffocating. Damn them. Damn them. And damn Michael most of all. I had burrowed my face in all the blankets to hide my tears.

I turned over and tried to bury my face in the cold sand. I dug in my fingers, feeling concealed fragments of the old house. A sea gull flew by and hooted at me, as if criticizing my laziness on Brother Michael's behalf. Hearty Brother Michael, who had gotten up in that morning after having humiliated me with the glad hosanna "Rejoice, for this is the day the Lord has made," walked over to the basin, broke through, washed his wide red face, and beamed, steaming breath coming between thick, white teeth. He'd snuck into line a second time when God was handing out vitality and thus missed getting into the line for sense.

Suddenly, I heard the laughter of young women. I rolled over and peered out over the window frame, half-expecting to see some odd lake mermaids playing in the shallow water. Instead, I saw half a dozen blue-uniformed girls from the monastery school, all my age or younger. I recognized several of them. They jostled each other for a perch on a driftwood log, like me having momentarily escaped the tyranny of duty. None of them was dressed for the cold, and they hunched against each other, giggling. Occasionally one would stand, brush the sand from her bottom, and sit again.

I watched in fascination. Women in general don't understand how charming they are when they aren't trying to impress men. They fussed with their breeze-blown hair and the shoulder badges awarded for school-work and Bible memorization, gossiping about teachers and absent classmates.

One stood and gave her red-brown hair to the lake breeze, letting it blow behind her like a comet. She looked out across the water as if awaiting a ship, then walked down to its edge. She had a long neck and full lips, which she pursed at whatever she imagined she saw across the water.

"Come on, Laurena," one of her friends, a small blonde, cried. "We'd better get back."

Indeed, I could hear the bell that marked the change of hour. I was expected back as well. Brother Michael needed my help. One of the three magnetohydrodynamic generators that powered St. Thecla's and much of the surrounding countryside was down for cleaning and maintenance. I was to spend the afternoon crawling through tubes getting covered with coal dust. Punishment was certain if I was late. I couldn't move but

watched as Laurena tossed her head disdainfully, kicked off her shoes, and waded into the water. A wave wet the bottom of her skirt. Her uniform hugged her waist, showing off the curve of her hip and her breasts. I learned later that she had taken it in herself, in private, with a razor and needle and thread.

"Laurena!"

"Go back if you want. I'm not going." Balancing delicately on her bare feet, arms floated out for stability, Laurena walked onto the driftwood decades of storms had jammed against the pier pilings. "I have other places to be." The curve of her bottom as she stepped up on a piling made me dizzy. She was as luscious as a basket of fruit. I was in love at that instant, totally and irrevocably. I had something to which I could dedicate my life. I pushed my erection into the sand, feeling the roughness of the cassock against it.

"There's a bit of a gap between the end of the pier and the coast of Wisconsin, if that's where you're going." This voice was dry and amused, not the voice of a schoolgirl. It had a dark, rough quality, like weathered wood.

Laurena turned challengingly, almost losing her balance. She steadied herself, trying to look dignified. "And what's that to you, Aya Ngomo?"

"Not a thing, Laurena Tarchik. Except that if you don't come back with us, you'll be missed. Then they'll figure out where we go, and we won't be able to do it anymore."

"Let them try to stop us. I'm tired of it anyway. It just feels like freedom. It's only a longer leash. I want to get *out* of here."

There was a whispered conference among the five girls still on the log. Four of them stood up and ran lightly back up the trail that wandered through the dune grasses to the monastery. Left on the log was a small, bent girl with dark hair and skin. This was my first sight of Aya Ngomo.

Despite the luminous presence of Laurena Tarchik, she caught the eye at once. I may sound as if I am writing standard hagiography, Thomas, but the unfortunate thing about hagiographies is that they are sometimes true. Aya Ngomo focused my vision, even without the benefit of having had her icon at the front of my classroom as I was growing up.

I realized that I had caught glimpses of her around the monastery. She suffered from a progressive nerve disease, some mutated byproduct of the artificial plagues released during the twenty-first century wars. Her spine was twisted and she was in constant pain. She walked crabwise and crept slowly along walls. Her long hair was a lustrous black. She had an odd beauty, like an exotic caged bird. Her skin was dark velvet, her eyes wide and all-seeing.

She was, I had heard, a ward of the Patriarch of Milwaukee himself. He had taken an interest in this quick, intelligent girl. She held your eye by more than just her deformity. She was like a jewel with a complex flaw, much more interesting to gaze into than a transparent stone.

"Go away, Aya, for God's sake!" Laurena was almost shouting.

Aya looked composed. "Why are you being such an idiot?"

Laurena turned her back to Aya and walked farther out on the piled driftwood. It creaked and shifted under her weight. "Haven't you ever wanted to escape? To go—" She stared at the horizon, squinting to see something. "—somewhere?"

The crippled Aya Ngomo put her thin arms around herself. "Escape? Laurena, you don't know the half of it."

"Then let me go! Let me—" Her foot sank through a rotted piece of wood. The rest of the pile shifted. She gasped and tried to pull back. She almost fell from the effort, something that would have snapped her ankle. She was well and truly stuck, her foot trapped by a heavy log.

"Aya!"

Aya shook her head slowly, as if things had happened exactly as she had predicted. Perhaps they had. She stood, wincing, and walked to the end of the pier.

Laurena stood motionless, her hands clenched at her sides. She sucked breath heavily, in obvious pain. At that instant I thought less of the pain in her ankle than the way her breasts moved as she breathed. I couldn't even make myself feel ashamed of that later. She was a wild animal caught in a trap. And I, as the hunter, would come and free her.

Aya Ngomo crawled slowly across the shifting driftwood toward her friend. "Don't worry, Laurena. Does it hurt?"

Laurena drew a breath. "Yes," she said tightly. "Dammit."

At that point I finally stood. I brushed the sand from the front of my cassock, correcting my appearance as much as the damn shapeless thing allowed, put my pectoral cross back on, and stepped out through the house's tilting door. I felt exposed on the beach below the monastery, black as a crow, immediately visible to anyone as a truant monk. I stepped onto the pier behind Aya.

"Are you ladies in need of some assistance?" The casual seemed to be the proper tone to take under the circumstances.

They turned and I was faced by two pairs of appraising eyes, Aya's dark, Laurena's a vivid green. I was then tall and slender, with a high forehead and a sharp nose. My skin was just as dark as it is now, though far smoother. I was already known for intelligence and ambition. Still, I quailed before those female eyes.

Laurena rolled hers. "Just what I need." She returned to her contemplation of the horizon.

Aya just laughed, a low, throaty sound. "Where did you come from? Are you appeared like a miracle? Such excellent timing."

I'm afraid that I blushed. Laurena was too obsessed by her own predicament to consider, but Aya guessed that I had been eavesdropping.

"I may not be a miracle, but you can use me as one." I stepped past her and onto the driftwood. I weighed more than either of the women and it swayed under me like a ship's deck in a storm. I made my way over to Laurena, kneeling down next to her. She ignored me.

As I bent by her slender ankle, I could feel the exhalation of her flesh. Her own sharp scent made itself known over the bland floral aroma of

soap. I let my shoulder rest against her calf. The wet bottom of her long skirt had plastered itself against it. The log had jammed tight. Bruises were already appearing around her ankle. I pushed against the wood. Pain caused her to suck in her breath sharply. She didn't speak.

"Well, miracle, what are we to do?" Aya had made her way out to us, moving as lightly over the wood as a stalking spider. She held a thin cylinder of wood out to me, a piece of an old porch railing or chair. With its help I was able to pry the shifted log far enough for Laurena to pull her foot out. She put her hand on my back to steady herself as she did so. I felt her fingers warm on my shoulder blade.

"Thank the gentleman," Aya said chidingly.

I stood. Laurena looked me in the eye. "He works with my brother, Michael. His name is Vikram Osten: Michael says he's lazy and only here because his family has ordered him. The Ostens are a powerful family."

I smiled at her. Michael's sister. Interesting. "You are quite welcome, Miss Tarchik."

I earned a laugh from Aya, which pleased me. "You'd better hurry back, Brother Vikram. Someone will miss you." I met her dark, somberly amused eyes and realized that further help would not be appreciated. With a slight, I hoped sardonic, bow, I made my way off the pier and up the sand trail to the monastery. Halfway up I turned, to look at two figures, the taller straight one leaning on the smaller bent one, as they made their painful way across the sand. Neither looked up at me.

Out of breath, I ran into the waste plastic and wood building that housed the generators. Michael rested his arm on a stanchion and watched the flickering LED's. He fussed with the flow diagram, changing the ionization balance in Number Three. Number Two was shut down, ready for me. He didn't look happy to see me.

"You're late, but no matter. I expected it, you see. You can work twice as fast. Into your coverall. Make sure your work is good, or you'll be here tomorrow as well."

He slung the coverall at me. I changed out of my cassock in front of his expressionless ruddy face. Without a further word, he shoved me into the dust-filled MHD feed tube.

I saw Aya Ngomo again two weeks later.

A shrub-covered dune with a bare top rose just near the chapel. Outdoor services were often held there. One morning, as I was coming aromatically from cleaning a communal latrine, I heard shouting from behind the dune, an angry, ugly sound. I hesitated for a moment, then ran around it.

Several of the boys from the nearby town had gathered around Aya Ngomo. She lay sprawled on the ground, her back twisted, while they circled her, jays around a captive lizard. "Batty, batty!" they cried. "Fly to your cave, hang from your feet. Leave us be!"

Wild-eyed, they waved their arms like madmen. One pulled back a

black-booted foot and kicked her. She rolled over silently, without so much as a gasp. Her eyes, expressionlessly black, looked up at me.

I make no claims about my physical courage, but having been seen by those eyes I could not turn away. Shouting some nonsense of my own, I waded into them. I had no plan, no idea of what I was doing. With sudden fury they turned, smashed my face, and punched me in the stomach so that I bent over, retching. A huge hand came and hit the side of my head. I found myself lying on the ground. They continued to kick me but I took no notice. I watched the clouds roll by overhead. They were the most beautiful clouds I had ever seen.

Suddenly a large figure came into my view, picked up a boy, and flung him into outer darkness. It was Michael. Behind him came other monks, a taut, active mass. The disorganized mob of locals was swept aside like so many dried leaves. It was late afternoon. The light slanted dramatically across the monastery. I lay with the side of my face in the rough grass. The air was crisp and winy. It was a pleasure to be alive.

Brother Michael picked me up. "Are you all right, Vikram?"

To be rescued by Michael. How humiliating!

"I'm fine, thanks." I tried to stand. He had to catch me. Two other monks came and supported me under the shoulders.

Blue-uniformed girls had gathered around Aya Ngomo. They swirled and twittered around her, brushing the twigs from her sweater. For a moment I could see nothing but masses of feminine hair. Then they parted and I saw Aya's eyes on me. Standing next to her, full mouth quirked in amusement, was Michael's sister Laurena. She looked past me as if thinking about something far away. Then my brothers carried me off.

The monastery Infirmary was on the second floor of what had once been a rustic tourist lodge, its false wood beams long since cracked and fallen away, revealing the metal that supported it. My bed was crammed into a corner behind a deeply gouged plastic partition. On the wall above my head, just under the roof, hung a glass case filled with Indian arrowheads, labeled with names like Kickapoo and Potawatomi. It had probably hung there for over a century. I imagined a boy collecting these remnants of a forgotten age, the action of someone who did not have to worry about the future. A window looked out on the monastery past the thick bough of a maple tree. I could lie in bed and watch others about their duties. Under a thick blanket yet.

A firm knock came on the partition. I looked up, half-expecting it to be Brother Michael, come heartily to rip the blanket from me and drive me out into the frost to do some labor for God. Instead, Aya Ngomo's dark head poked around the partition. She rustled in and sat in the room's one chair.

"I came to thank you," she said. "That was a brave thing you did."

"And completely ineffective." I waved my hand in dismissal. I had already learned how effective being casual could be.

"It was still brave. Such a helpful man you are. Is there anything I

can do for you?" She was made to be painted as an icon. Her scrutinizing black eyes dominated her face. Her words, as they so often did, seemed to contain a sardonic barb.

I was suddenly hot in my bedclothes, prickling sweat all over my skin. I reached under my pillow and pulled out an envelope. It contained a love note to Laurena Tarchik. I had labored long over this work, sitting up in bed under the arrowheads. In it I proclaimed my love for her, my undying passion, my longing for one single word from her lips . . . well, it was new to me then. I also cited my family's connections and my future prospects. A sturdy bank balance is often as much of an aphrodisiac as flowers and honeyed words. I begged for a meeting with her, at the corner of the Chapel of Sts. Cosmas and Damien, in two nights.

I handed the letter to Aya. "This is a letter to Laurena from her brother Michael. Could you take it to her?"

She balanced it on her palm as if weighing the truth of my words. Her eyes looked past me.

"There's one sort of intelligence," she said. "It helps you get what you want. Laurena has it. So do you, I think. There's another: the kind that tells you what the right thing to want is." She slipped the envelope into her sleeve. "It's lovely of Michael to write his sister. She doesn't like him much. That's too bad. I've always thought about how lovely it would be to have an older brother." She stood up, as far as she could, her back bent. "Get better, Vikram. Even if you don't want to." She left with a sound like blowing dried leaves.

Two nights later I edged out of my window into the cold air. The maple had been pruned away from the building and I had to lean out to grab the bough. The drop below pulled at me as I tilted out of the window. I seriously considered climbing back into bed. Perhaps the career of a lover was not for me. I let myself fall outward. I felt the rough bark of the tree in my hands and swung my legs around the bough. After that it was easy. I slid down the trunk to the ground. My dimly lit window hung high above me.

I felt exhilarated. I breathed not air but light. The ground rocked under my feet as if I walked on the surface of Lake Michigan. I ran off through the darkness.

The chapel corner was deserted, the moon peeking over the ramshackle plastic building that housed the MHD generators. Two huge concrete Cherubim with snarling faces and clawed feet supported the chapel. I pulled myself into the shadows by their heads.

The cold wall behind me sucked my heat. I shifted weight from foot to foot but didn't dare move much more to stay warm. Footsteps crunched on the gravel walk. I almost turned and ran then. Heart pounding, I stepped forward into the moonlight.

Laurena turned. "Ah, Brother Vikram." She stood before me in a long dress, not a school uniform at all, but a real gown flaring out over her hips and tumbling down to the ground. Her hands were clasped like a suppliant's, her hair loose around her shoulders. For a moment I thought

she was there to make mock of me, but she was clearly as nervous as I was.

"I'm glad you came," I said.

"I almost didn't," she said. "Aya didn't want me to. She didn't say that, but it wasn't so hard to figure out what she thought."

I didn't ask her if that was why she came. Instead, I took her arm. She pulled her arm back against my hand in acknowledgement of its presence. I felt joy.

"So what do you think rescuing me on that stupid pier entitles you to?"

I ignored her tone and paid attention to the pressure of her upper arm. "Just a few words. The ones you wouldn't give me before."

She snorted but said nothing else. We walked along the low wall that tried vainly to stop the encroachments of dune sand and finally stood on the slope overlooking the villages that clung to the edge of Crystal Lake, the dune-trapped body of water behind St. Thecla's. Her family lived down there somewhere, save for her tedious brother Michael, who had moved up to the monastery, where he worked providing his town with electric power. Though surely it had already healed, she limped on her injured ankle.

"I was in Chicago once," I said, naming the most romantic place I could think of. It helped that I actually had seen it.

She took my arm in her turn but did not look at me. Was she seeking, somewhere among the twinkling lights around the lake, the single light of her family's house? Escape. Laurena Tarchik wanted escape. I was going to give it to her. "The Drowned City. I wish I came from a drowned city. I wish Lake Michigan would pour across the dunes and fill Crystal Lake to overflowing." She was imagining water pouring in through the windows of her house, drowning her mother as she fixed dinner. I didn't need to read her mind to know that.

"The water the towers rise from is usually still. It's shallow and you can still see the fire hydrants and street signs under it. There's enough glass left in the buildings that the reflected light of sunset makes the place look inhabited." We hadn't actually landed there. Uncle Cosmas had just swung the boat in close on our way to Milwaukee. But I didn't feel the need to burden Laurena with that kind of detail.

"I have places to go," I said. "Boston. Paris. Constantinople. Who knows? Moscow herself." I whispered the names of those torn and rebuilt cities, capitals of the Orthodox Empire, for their aphrodisiac qualities.

She sighed. "Anywhere, Vikram. Anywhere but here."

I put my arms around her waist and kissed her. She kissed me back, deeply but matter-of-factly, not melting in my arms. I ran one hand down to where her buttocks swelled out and felt her breasts against my chest.

She ground her hips against me, then pushed me away with suddenly strong arms. "I have to get home." She said the word with disdain. "They'll miss me."

"When will I see you again?"

"Use Aya to send me another note." She smiled. "I rather liked that." She turned and, without a backward look, walked into the darkness towards her house.

I headed back toward the Infirmary, fingers and toes tingling. The moon was now shining full silver, coating the bare trees.

My return path took me past the spot at the base of the knoll where the boys had attacked Aya. There were no traces of the scuffle in the sand. The scene, with its dull-faced blackbooted farm boys and its tormented cripple in their center, had receded in my mind to a medieval painting, a side panel to the Crucifixion . . . or a scene in the life of a saint.

I stood and looked up at the knoll. With a tightening of my scalp, I saw the silhouette of a figure sitting thoughtfully at its top. In the moonlight that ominous twisted shape showed me something of what the boys had feared, for I recognized Aya Ngomo.

"Good evening, Aya." She had heard me clambering up the hill, and was not at all surprised to see me. That should have told me something.

"Hello, Vikram." She looked past my shoulder at the stars. "Have you ever wanted to float away into the sky? Just to drift between the stars?"

I thought about holding my breath and slowly rising through the clouds. But it didn't even occur to me to tell her about it; this was something so private I had never articulated it.

"There are too many places to travel on this earth," I said instead. "I've only seen a few of them myself."

"Oh? We're stuck here in the dunes of Michigan. What lies outside?" Her tone was faintly mocking, not at all what a crippled girl's should have been. All these young ladies were too wise. "What wonders have you seen, Vikram?"

Her tone was interrogative in a way I didn't like. I didn't feel like admitting that Milwaukee was my big trip, and somehow the story I had told Laurena about Chicago seemed inadequate to Aya's attention.

"Boston," I said. I'd read enough about the capital of Russian New England to fake a visit there. And I'd always intended to go.

"Really?" The romantic name excited her. "Then you can tell me about the new Cathedral they're building there. What does the bell tower look like?"

Bell tower? What a question! "Russian Second Empire," I said. It seemed reasonable. I knew the Boston Public Library was built in that style, just across Copley Square from the Cathedral.

She frowned. "I thought they were using the remains of an old skyscraper to hang the bells—that's what's so interesting about it. I must have misunderstood. . . ." Her eyes were on me. I don't think Aya really saw the truth someone was concealing, though it often seemed that way. Instead, the way she looked at you reminded you that you yourself knew the truth, even if she didn't, and made you ashamed for not speaking it.

"Why are you sitting out here, Aya?"

"I was waiting for you." Aya told the truth herself, though not always

all of it. It wasn't until later that I figured out that she had understood my rendezvous with Laurena and had positioned herself to catch me on my return from it. "I wanted to show you something."

Despite the sudden weariness that I felt, the sense that the world was too complicated and difficult to deal with, I sat down next to her on the cold ground. "What is it, Aya?"

"My mother died when I was born. My father not long after, both, I think, from the same disease that makes me what I am." She didn't give me time to speak some standard commiseration but rushed on. "But before he died, he told me a story. At least I remember it as being him. Perhaps it was just a dream. The sort of vision that comes to someone with a distorted nervous system."

Remember this, Thomas. Aya Ngomo never had a vision that she did not attribute to some physical cause. Of course, the Lord performs his miracles through the universe He Himself has created, and thus can use a congenitally defective nervous system to convey His visions, if that suits His purposes best.

"He told me that each person had a jewel—the thing that defines us, that makes us ourselves. Something had stolen mine from me." She ran a hand down her twisted side. "That's why I'm like this. I am incomplete."

"A jewel. What sort of jewel?" I pictured a bauble rolled into a dusty corner and forgotten after the closing of some massy treasure chest filled to the brim with unset emeralds and pearl earrings.

"I won't know that until I find it."

"Then how will you look for it?"

"I—" She gazed back up at the sky. "However I can."

"Well, good luck with it then."

She was correct and I realized it, of course, as by now we all have. It may be that I was the first to see the truth of it. St. Aya Ngomo. Was it merely by accident that I had seen her torment by the farm boys as a stage on the way to sainthood?

"Doesn't it amaze you that the Orthodox Empire travels through space?" Her question didn't seem like a changing of the subject, but perhaps I was merely caught up in the physical vision of her metaphorical bauble. Jewels glinted at me from the sky.

I was spending a year of my young life at a Byzantine monastery while spacecraft rose from the Dakota plains not a thousand kilometers away. "I suppose it is odd."

"Odd? It makes no sense at all. But then, why should anyone travel through space? It's so much trouble. You haven't traveled through space, have you, Vikram?" A smile tugged at her lips.

"No," I said curtly.

"I'm sure you will. As might I. I've been reading about it. I suspect that we are not the first race to travel through the solar system."

"What have you been reading?"

"Oh, this and that. Stuff from the First Space Age, before the wars. There are indications that we are not the first, that others went among

the planets long before we were even thought of. The Ancient Ones, some people call them. No one knows who they were."

"Did they take your jewel?"

"Perhaps they did. If so, will you help me look for it?"

And, not knowing what I was letting myself in for, I said, "Sure, Aya. But I'm sleepy now, and going to bed. Good night."

One day the Patriarch of Milwaukee, Simon Kramer, visited his monastery. The entire community dragged itself down to the monastery's dock, some distance down shore from the ruined house and pier where I first met Laurena and Aya Ngomo. The Patriarch's hydrofoil scudded across the lake like a sparkling water bug. Crumpled and shattered blue ice stretched out from the beach. It had been some labor breaking a passage through for a boat landing. The water beyond was gray and sullen, unhappy at remaining liquid while other water rested frozen.

Though I have since been to Constantinople and Moscow, I still remember the glory that emerged from the hydrofoil. The Patriarch and his entourage were dressed in scarlet and yellow robes embroidered with gold, vivid against the white and dried brown of the sleeping shore. Their crowns gleamed with jewels. Acolytes carried icons of the Virgin, the last—an unhappy, balding man—hauling a much-too-heavy gold reliquary containing the remains of St. Natalie of Choisy-le-Roi, martyred in 2094 by direct order of Governor-General Moreau as the Holy Apostolic Army of Russia advanced toward Paris. The sad man tripped over a beached and frozen carp, and looked even sadder.

The Patriarch held his audiences in the Library, a much-patched building that had once been a tourist restaurant. Among others he called to him his ward, Aya Ngomo. When Aya came to the Library she found me cleaning the bronze high reliefs that decorated its front. Brother Michael had detected a faint shadow of oxidation on the neck of one of the Roman soldiers uninterestedly witnessing the martyrdom of St. Lawrence in the third panel. I scrubbed behind the soldiers' ears like a diligent mother, cursing Michael's name.

"Vikram," Aya said. "I'm afraid of him. He's huge. He's covered with jewels and has a loud voice. He's like an idol."

I looked down at her from my stepladder. She was not wise and mocking, demonstrating some subtle superiority over me. For the first time I saw her as a unhappy young woman, bent and twisted by an indifferent fate, unsure of what was going to happen next. Her clothes were neat and pressed for the interview.

"He's just a man, Aya." I didn't have to face him. "He wants to ask you a few dumb questions about your studies and send you on your way."

"Of course. Still. . . ." She looked at me appealingly with her large eyes, then smiled. She was trying act coquettish and it was grotesque.

"Go ahead." I spoke in dismay. "Don't keep him waiting."

I returned to my memories of the night before. It had been a struggle as formalized as a Court dance but Laurena had finally allowed me to

touch her breasts. I had run my hands gently across her skin, taking her nipples between thumb and forefinger—

"Novice Vikram Osten?" It was the balding sad man with the reliquary. He frowned up at me from the doorway, his droopy moustache like graffiti scrawled inexpertly across his face. His name was Donald Tergenius and he was head of the Patriarch's civil secretariat. "Meditating on the fate of St. Lawrence?"

I noticed that I was leaning my hand on the body of the saint as he was roasted on the griddle in front of the Emperor Decius. "Yes." I removed my hand and straightened. "He is the patron saint of libraries."

"Just so. The Patriarch wishes to speak to you."

"Yes, yes." I jumped down from my stepladder and babbled. The man intimidated me. "I have been studying the writings of Pseudo-Dionysius the Areopagite and—"

He regarded me gloomily. In later years I would learn that Tergenius invariably expressed anger as melancholy. "Save that stuff for someone who's interested in it—whatever that might be. The Patriarch has more important things to think about. As do I." He drew back into the doorway.

Patriarch Simon Kramer's face was almost invisible beneath his beard. He sat behind a desk, members of his secretariat shoving papers under his gaze as he spoke. "I have good report of you," he rumbled. Tergenius stood solemnly by his shoulder.

"I'm glad." I tried to imagine who it could have been. The Archimandrite of St. Thecla had never deigned to notice me, and as for my life-monk, Michael. . . .

"I have already learned to rely on the perceptions of my ward, Aya Ngomo. Continue your studies and you will be a success." With this formula he shuffled me off, tongue-tied, onto the grim Tergenius, who escorted me back out.

We lingered in the doorway, he looking intently at me. "In several months I am leaving the Patriarch's service. I am becoming a provincial administrator in Utah." Despite my earlier blithe talk of Constantinople and Moscow, I felt him to be talking about the furthest ends of the Earth, a miserable exile. "There is room for advancement, there on the edge of our Empire, particularly for those uncomfortable under the just rule of the Church."

"I'm sure there is. But my family has risen high here in Michigan."

"That they have. And you intend to climb on their shoulders. A fair ambition, if predictable. Still, if events do not turn out as intended. . . ." A brief smile appeared on his face like a ritual gesture. Without another word he turned and walked away, leaving me wondering at the reasons behind his implied offer. He saw something in me, and advancement was impossible without a patron. But Utah. . . .

The sun was setting over the lake, its red light diffused through a layer of icy mist. I was searching for Aya but realized that I wouldn't have far to look: I could see her bent figure down on the shore, black

against the vivid blue of the snow. She twisted and shuffled, as if trying to dance.

"Aya, you're cold." She turned to look at me. "You should get back to the dormitory."

My shoes were full of snow from my descent down the dunes. I could feel the cold wind off the lake tightening my cheeks. Aya's once-neat clothes hung askew, as if she'd been running through the woods and rolling in the snow. Her face was flushed and her eyes were fever-bright. She didn't seem to notice the cold. She was a woman in the grips of something far beyond her.

"I have made my decision, Vikram. Are you ready to go with me?"

"What? What did the Patriarch say to you?"

"Oh." She made a face, a ladylike mope of disapproval, bizarre under the circumstances. "Some standard formulas. You know how these people talk."

"So why—"

"I realized that he wanted to help me, but had no idea of how to do it. The burden is on me, if I'm to find what I'm looking for. And I will find it, my jewel. I will!"

"I'm sure." I was cold and unhappy. Her husky voice seemed unsuitable to such absurdly melodramatic statements.

"And you'll help me, won't you, Vikram?" She took my arm, the first time she had ever touched me.

"What are you talking about?"

Her eyes shone as she looked at me. "I have seen what I have to do."

She loved me. I suddenly understood. It made perfect sense. I was handsome, rich, clever. She was a poor crippled girl, completely alone, ward of a distant ecclesiastic. Her dismal fate drove her to love me through sheer self-defense, the way a drowning man loves air. So I didn't take it as a judgment on my own worth. But I understood it.

"Doesn't it occur to you that I too have jewels to seek?" I kept my voice hard.

She looked at me solemnly. "What are they, Vikram?"

I again pictured her jewel rolled into a dusty corner while the treasure chest gleamed. I had spoken to Tergenius and the Patriarch, men of power. And there were men of power far beyond them, the rulers of this world.

"The jewels of the Earth. I will climb to the heights, above the Patriarch, above the Governor of Ontario. You are not the only one with dreams."

She caught her breath. For an instant I thought she was going to cry. "Oh, you poor man." She put her thin arms around me. "What a choice to make!"

"Don't seek your jewel in me. You can't! I don't have it." I jerked back. She lost her balance and fell into the snow. I reached down to help her but she pushed my hands away and struggled to her feet herself.

"Aya, I—"

Her face was tight. She ran her hand across her chest, fingers shaking, to reassure herself that she was indeed still deformed. "I will always hope for something more from you, Vikram." She turned and walked away.

"Good luck," I called after her. "Keep trying. You will succeed. I believe in you."

She tried to run. Her feet twisted under her. She wobbled. I looked after her and for a moment had a feeling of intolerable loss.

But I had another destiny for that evening. That was the night that Laurena Tarchik would finally succumb to me. I met her, as was our habit, by the Cherubim.

"Oh, Vikram, it's so cold." Her face was flushed in the wind. She had made herself up elaborately. Several shades of color on her eyelids made her exotic. "What are we doing? You're so mysterious."

"It's a gift," I said. "A special gift."

We walked side by side through the night. It had taken me a great deal of work to convince Laurena that I represented her escape. I was freedom. And she would give herself to me for the love of it.

I led her to an anonymous door, much patched, and threw it open with a dramatic gesture.

"Oh, Vikram!" She stepped into the room. "How did you do this?"

My parents had sent me gifts, particularly when I lay hurt in the Infirmary, and I had carefully hoarded them. The gifts had turned into bribes.

The old storeroom, used as an armory in the middle twenty-first century, had been transformed by my labors. The old gun racks were hung with aromatic pine branches. The cracked concrete floor was invisible beneath a quilted packing blanket. Heat came from a portable infrared heater. A bottle of a liquor called bourbon sat on an upended packing crate.

And there was the bed. The sheets and blankets had cost me the most. They were the Patriarch's, sold by a member of his house staff. His crest was embroidered on each piece.

I kissed her deeply and removed her coat. We sat and drank the bourbon. I let the rich, hot liquid seep over my tongue and burn its way down my throat as I admired her.

Her breasts were full. The curve of her thighs showed through her dress. She gulped the whiskey, breathing quickly, and watched me. I caught her eye and she giggled.

"Vikram, I want to get out of this place. Just get *out*."

"You will, love, you will." I moved closer. "You'll see the stores in Boston and Atlanta. You'll feel the warm breeze on your skin in Cuba."

"Mmmm, will I?" She made a sound deep in her throat as I kissed her neck.

"Oh, Vikram, don't . . . oh . . ."

She wasn't just making love to me. She was making love to wealth, freedom, sunlight, warm water. I moved into her. I had her. I finally had

her. And through her, I had Brother Michael. Her thighs smoothed up my hips.

The storeroom door slammed open. Cold air blew into the room. Outside were indistinct figures shouting in outrage. Laurena cowered back and grabbed desperately for the blankets.

"Michael!" she shrieked, as if her stout brother was rescuing her from a vile assault. "Michael!" She scuttled back across the bed, blood on her thighs.

"Shut up!" It was him, massive in the doorway. Tears streamed down his cheeks. He looked at me. "You viper."

His huge hands grabbed my shoulders and pulled me from the room naked into the cold.

There is nothing else left of that night, save a confusion of voices and faces. The next morning, clad in a workman's coverall, I was thrust through into the outer world as an unwillingly born infant.

When they came for me my family was mortified. Even Uncle Cosmas had managed his year without disgrace. I was the only one who had failed.

In all that night and day, though I looked for them, I did not see Aya Ngomo's eyes anywhere.

The Monastery of St. Sergius, 2182

I sit at my table and watch Thomas attach the telescope to the window frame. I don't have enough strength left in my arms to even turn the screwdriver.

"Are you sure this will hold?" Since my confessions to him a week ago, Thomas has been noncommittal, any interchange with me being kept to a purely mechanical level. This doesn't bother me. Thomas's mind works slowly but powerfully. He is reserving judgment.

"I'm not an engineer, but I think it will."

His shoulder bulks as he turns the screws. I hear the dry wood of the frame crack. Thomas looks dismayed at his inadvertent vandalism, then shrugs and proceeds. When he is finished, and the image-multiplier telescope rests in its mount, pointed at the sky, he waits a long moment and then turns to me. His blue eyes are innocent in the candlelight.

"So you knew Aya Ngomo was a saint when you met her?"

I run my mind over the story I told him. Did I really make that claim? In my memory her face is surrounded by a retrospective nimbus. Hell, I remember St. Thecla's itself as a pleasant place, high point of my youth. Memory is treacherous.

"If saints were so obvious, we would have no choices to make."

"I don't want catechism." For the first time since I've known him, Thomas's voice is sharp. "I want to know what happened to you."

So he's pushed me up against it. It sounds like he actually wants the

truth. Washed up here, half-drowned on the far shore of my life, I am inclined to give it to him.

"I had no idea of who Aya Ngomo was. She compelled—but not through force of sanctity. She was of some other metal. But then, she is the only saint I've ever met. Perhaps they were all like that, grabbing our heads and peeling back our eyelids with their thumbs to force us to look at the light."

"And this woman loved you." I have achieved my first objective in Thomas's education. Thomas looks dubious.

"And have you never known the love of a woman, dear Thomas?"

He does not answer but sits silent, running his hand through the unmown-hay wildness of his hair. Aha. There's usually one somewhere. And I want to know what this man has given up to be here. Even if it should cause him pain. I want to know. After all, I'm willing to reveal my life to him.

"Laurena loved me, the way a caged bird loves the hand that can free it. Others have loved me too, for as little reason, or less." I watch him. He is not attending, his thoughts far away. "Who was she?"

His blue eyes lock onto mine. "What, Brother Vikram?"

"Never mind, if you—"

"She grew up near me," he says, his voice rushed. He looks away as he speaks. "Her name was—is—Janielle. I first remember her as a little girl with long hair in clips, wearing a dress and playing with a ball against a brick wall. It was afternoon, sunny. It was a big rubber ball and she hit it with the tips of her fingers." He pushes his fingertips out in front of himself to demonstrate, then pulls his hands back into fists. "She was always very graceful. I was clumsy."

"What did she smell like?"

He doesn't hesitate. "Like heaven. We first made love outdoors, behind Crofter's silos. We had nowhere else to go. Her parents didn't want her seeing me. The grass was wet from the rain. I lay down and she lay on top of me. The sun was behind her head as she laughed. I could feel the wet mud on my back. She brushed her hair over my face and kissed me. After." His face is bright red. He stands. "Good night, Brother Vikram."

He shuts the door gently behind him. I walk to the window and watch him trudge through the bean poles and pea trellises in the garden. His shoulders are hunched and his face is down so that I cannot see it. The stars gleam above him.

I wait there by the window for a long moment. The aging body is so little capable of the old pleasures that anticipation is about the only one left. The stars knock on the glass for admittance. In response to its computer, the telescope swings and locks in to its goal. I put my eyes to the viewer.

For an instant all is chaos, the stars and nebulae of the external universe confused with the stuff that floats in the interior of my own eyes. Space seems alive with writhing snakes. Then it settles down. Blackness, and a tiny glowing speck: the fusion flame of Aya's ship.

I push the magnification as far as it will go. The image plumps slightly, like a cooking rice grain, but develops no more detail. But what detail do I expect? The light is several years old. Aya Ngomo lies within it, frozen by Fitzgerald-Lorentz contraction. The days that bring me ever closer to death are but fractions of seconds to her. I could dry up in my grave and vanish into dust in the time it takes her to raise a bulb of water to her lips. She is sanctified by time, an incorruptible effigy.

Is she alive or dead? They Synod, ignoring the ambiguity, has canonized her, for she is no longer of this earth.

After some endless time I turn from the telescope. My neck aches. I groan as I loosen my joints. I want to celebrate what both Thomas and I have lost.

The bottle is under my books. I don't even remember where and when I bought it. Since I know that I am unlikely ever to get another one, it's lasted for years. I pull it out. High Slivovits from the Hungarian Danube. A few inches of the precious plum brandy still sloshes in the bottom.

I take a swig and almost choke. The hot liquor sears down my throat. Over the years I have become weaker, while the booze has retained its strength. I cough weakly, a pathetic sound. Recovered, I drink again.

It doesn't take much to make the world seem a warmer place. Just a few swallows of an aged brandy from the other side of the world. The taste brings with it the sound of a crowded Court, the smell of sharp perfumes, the glint of gold cloth, the feel of silk. My days of power glimmer around me.

Strength fills my limbs. I stand up and walk out of my poor monk's cell. I should take a stroll in the garden before going to sleep. It will clear my head. I can collect my thoughts so that my presentation to the Imperial Legate tomorrow is both coherent and elegant—two steps down the stairs I trip and roll headlong. The risers are soft and cushioned with ancient oriental carpets. It's a joke, really. I'll bounce at the bottom and get up. Everyone will laugh.

I lie crumpled at the bottom of the hard wooden steps, unable to move. Bones have shattered like cheap crockery. Glow lights appear above me, held by monks who look more irritated than concerned. No one speaks.

Thomas sweeps out and stands over me. His eyes are red. He doesn't cry for me, though he should.

"I fell."

He leans over and picks me up as easily as if I am a fallen scarecrow. He lays me gently in my bed.

"We've called a doctor," he says. "It will be morning before he can come."

"No matter." The pain is surprisingly distant. I grab his arm so he won't leave. "There's more to the story, you know."

His face doesn't change, but he sits.

Have you ever been to Cedar City, Thomas? Don't bother. At one time, I suppose, it was a real city, but the water is long since gone, and the Imperial capital of Utah is a collapsing dump. Our power there was more fictional than Orthodox power usually was, even in those times, which in retrospect are the very zenith of empire.

It was inevitable that I come to Utah, I suppose. Tergenius always seemed to think so, and after my expulsion from St. Thecla's there was nowhere else for me to go. There was an office ready for me when I arrived. A small office, with work already piled on the desk.

"I received an interesting message this morning," he said, staring out the window of his office at the twisted beams and piled brick of the building opposite. "You've been asked for." The building had been burned in an assault by desert partisans half a year before and he had left it as an object of meditation, much to the Regional Inspector's dismay on his last visit.

I looked up from my examination of the gadget on the table. "Another of these political visits to the ranches? Please, Master Tergenius. The last one took two months. I still have grit between my teeth."

He shook his head. "Nothing so pleasant."

"Am I finally going to have to talk to these people?" I picked up the gadget. It twisted heavily in my hand as if containing wrestling gyroscopes. It was a lattice of crisscrossed filament crystals. Its purported use was to focus monopole magnetic fields, presuming anyone ever found a magnetic monopole to put in it. How Tergenius got his hands on things like that I had no idea.

"No. We'll save the plateau technologists for another time. But you're getting warmer."

He pulled a map out of a locked drawer and spread it on the desk. It was an unofficial map, heavily annotated in Tergenius's own hand, so the territories of Deseret, where the Mormons held sway, were clearly marked. Official maps did not recognize their existence.

Water resources were carefully noted. Tiny red dots indicated the far-flung ranches and huddled communities of the Tushar Mountains and Sevier and Virgin Creeks. I knew each of them well, having crawled my dusty way from one to another on my diplomatic missions.

Tergenius's finger moved slowly across the map, each inch a week's journey. He tapped the Kaiparowits and Aquarius Plateaus, where the mysterious builders of the monopole focus lived, and passed onward, finally coming to rest in the canyons to the west of the Colorado River.

"Judea!" I exclaimed.

He nodded and pulled at his absurd moustache. "Just so." He called those unconsolidated territories Judea because they contained prophets, great revelations, and mass hysterias. The place was a theological pest-hole, according to Tergenius, who normally was not concerned with mere spiritual issues.

"You haven't asked me the important question." He looked at me expressionlessly.

"All right. Who asked for me?"

"An important citizen of Judea, known to some as the Lady of Escalante. This connection may prove useful to us. I think you remember her as Aya Ngomo. You leave tomorrow."

The village of Page rested in the shadow of the ruined Glen Canyon Dam, destroyed in some vicious water war in which everybody lost. The Colorado flowed smoothly over the broken concrete. Behind it was a swamp filled with screaming water birds. I acquired a burro named Hermione there for my journey up-canyon.

I suppose Glen Canyon is beautiful but I was too afraid for my own life to really appreciate it. The canyon territories were rocky, complex, intertwined, an exercise in higher-order mathematics, where points seeming close together are actually infinitely far apart. The deep canyons were tangled and lush, the slickrock above barren and open. I looked up at the line of visible sky and thought about holding my breath so that I could float out of the canyon. The rock held me back.

Passion and spiritual power reflected off the sandstone walls. I watched fire walkers, men who put swords through their tongues, snake handlers, flagellants. I passed a line of bodies hanging from a cottonwood. They had been wrapped in layers of plastic sheet to ferment in the sun.

I asked after the Lady of Escalante. My old friend Aya Ngomo was the subject of many stories, but none seemed to have anything to do with her, and the more of them I heard, the less I believed in her existence.

I reached Hole in the Rock and made my way up the Escalante, collecting information. The variety of stories was dizzying. One struck a cord, a tale of Ancient Ones who lived a million years ago and left their traces on all the planets. Perhaps Aya was up here somewhere after all.

One dawn I awoke with a start. I had driven an irritated porcupine from his shelter beneath an overhang and now stared up at the just-visible rock sky in puzzlement. Sleepy as I was, it took several seconds before I realized the shapes blocking in my campsite were the figures of men.

Unspeaking, they hauled me out of my sleeping bag. I struggled, but they didn't acknowledge my efforts with even so much as a grunt. One of them finally took out something I couldn't see clearly and hit me on the head with it. I went back to sleep.

I woke again with agony in my head. I bent over and vomited, not caring where I was or who was watching. Then I looked up. Above me was a cottonwood tree. From a bough hung a rope with a noose at the end of it.

"Wait!" I shouted. "What is this? What have I done?"

My hands were tied behind my back. I rolled over and tried to stand. Two of them came over and solicitously helped me up. But when I was

standing they kept lifting me until I found myself sitting on my burro, Hermione. She looked at me and flicked an ear.

"This is intolerable." I was stern. "I haven't done anything. What have I done? You can't!"

They lowered the noose over my head and snugged it on my neck. My heart jerked in my chest. Though the noose hadn't pulled tight yet, I couldn't breathe. The sun had risen above the canyon's edge and glared in my face. I was going to die.

The men turned as one and stared up a side canyon at something I couldn't see. They glanced at each other, turned, and walked away. Walked away and left me there with a noose around my neck. Perhaps this was the method of execution in these parts, leaving death's timing up to the whims of a nervous burro.

In the silence I heard the whir of electromechanical equipment. Shrubbery crackled. Slowly, not wanting to startle Hermione, I turned my head. Coming painfully toward me across the rocks and thorny bushes was a twisted figure with shriveled legs. The metal of prosthetic supports gleamed in the sun. Her long black hair was carefully combed and tied with colorful ribbons.

"Aya." I managed a smile. "I knew you weren't the sort of person one meets only once."

"Hello, Vikram." She straightened to a normal human height, supported by scaffolding. Her tiny legs dangled beneath her. Her face was unchanged, sharp and intelligent.

We stared at each other. Wind rustled through the cottonwood leaves. A blue hummingbird zigzagged above her head. The rope was rough around my neck.

Hermione saw some interesting leaves and took a step forward. The noose started to pull me off her back.

"Aya, dammit! Get me off this thing!"

"Be calm, Vikram. You're too excitable." She moved past Hermione's head, her movements insectile, pausing to pat the burro. A moment later the ropes around my wrists loosened. I pulled out of the knots, losing some skin, and grabbed the rope above me. I yanked the noose off and jumped to the ground.

Aya watched me solemnly.

"Those your boys?" Now that I was safe, I could be angry.

"They're just some friends trying to keep me safe. There've been rumors of an Orthodox agent's approach since you left Page. They were trying to take care of you without disturbing me."

"How polite of them."

"You're lucky someone didn't get you before you even reached Hole in the Rock. I had hoped you would be a little less obvious." Her voice was severe. She examined me closely. "You've been living well, Vikram. Good food, a soft bed. You've put on weight. Veins are already breaking around your nose. Come along."

The trail led up under two large oak trees and ended in a dramatic

arching space at the end of a box canyon. The pink sandstone walls rose up and curved over us. The protected environment was wetter than the rest of the Escalante, full of cattails and thick-leaved marsh plants. Smaller oak trees crowded the walls. A stream flowed out of the moss and over the rocks to the river below.

Her home was a few belongings scattered beneath an overhang. Instead of a normal bed, she slept in an elaborate assemblage designed to support both her shrunken body and the weight of her prosthetics.

Her limbs whispered as she settled down to a sitting position. I brushed the sand off a rock and sat down facing her.

"You wanted to talk to me?"

"Yes." Her face was unreadable. I couldn't even tell if she was glad I had made it. "You once promised me your help. Now I need it."

"You want me to find your jewel, whatever it might be." It had rolled into a distant corner indeed, if she thought she would find it here in the canyons. "Why did you come here, of all places?" I looked up at the walls. The sunlight reflecting down from them lit everything with a yearning glow.

Her prosthetics shifted, seeking a more stable position. "The plateau engineers are the only ones I know of who make things like this. They design them, thinking of space. The prototype was a probe for exploring the surface of Venus." She ran her hand down the metal supports of her legs. "Now they help me explore my world."

From the epithet Lady of Escalante I had expected some sort of half-mad religious fanatic. Sitting in front of me was just Aya Ngomo, the girl who had been my friend at St. Thecla's. I suddenly missed it—or rather I missed her, the way she had sat on the ground and talked of her dreams, her quick intelligence, her unwillingness to tolerate nonsense in me.

"But it's not here." I was hard. "Not anywhere to be found."

"Yes!" I had expected disappointment, despair. Instead her face was transformed by what I can only call exaltation. "It does not lie on this dusty arrogant planet at all, Vikram."

I had been wrong. This wasn't the Aya I remembered at all. Or rather, as I now realize, I had remembered her wrong.

"What I seek lies somewhere beyond. I'm going to go there."

I looked up above the canyon edge. At that moment the silvery speck of some stratospheric airship floated in the transparent desert sky like a representative of the Sun God in his daily round. I felt the earth slap the soles of my feet to knock me up into the blue. I turned my eyes down, dizzy.

"And how are you going to do that?" I was suddenly belligerent, exasperated by the whole ridiculous situation. "Your plateau engineers might just be able to cobble together a surface-to-orbit launcher for you, if they make a deal with the Alaskans or the Chileans—dangerous either way. So what? Unless your jewel is an old Soviet space probe or something in a decaying orbit, that's not going to mean much. And the Orthodox

Empire doesn't grant launch slots to unauthorized religious expeditions. Resources are scarce, Aya. You know that."

"I do know." Her prosthetics shuddered. Seeing that she was desperately unhappy, I reached over and took her hand. She looked down at it in surprise, then wrapped her fingers around mine in a surprisingly strong grip. "It's hard, Vikram. But we're going to do it. Aren't we?"

Thinking back over it, Thomas, I think it was that "we" that finally did it. No one has ever managed to use the word like she did. "I suppose we are."

There is, Thomas, a certain sin in doing a righteous thing solely in order to keep your own good opinion of yourself. It is a sin of which Aya would often make me guilty.

After that we simply sat and talked, like old friends. At twilight the mule deer came down from the rim and drank at the spring. As darkness rose she lit a fire. It sent its orange light up the canyon wall like an arrow toward the stars.

The next morning found us walking on the sandy floor of a slot canyon less than two meters wide. The thirty-meter-high walls were perfectly vertical, knife-cut to reveal millions of years of geologic time, an exhibit of the monstrous futility of history.

At one point, to demonstrate something to me, Aya extended her prosthetic limbs and chimneyed up the canyon, sending down sprays of sand. She moved with quick grace until, while I was in rosy shadow, she thrust her head and arms out into the sun.

"I can see it," she called down to me. "It's not much farther."

"Great."

She put her hands on the lip as if to climb out and leave me in the pit. But, after one last look around, Aya climbed back down. She grinned at me, face flushed with excitement.

Another mile and the walls began to settle down lower and lower. We turned a corner and the canyon widened out. The sandy soil around us was scattered with gleaming chunks of petrified wood. Orienting by landmarks not visible to me, Aya turned and we climbed up a rock slope, a slickrock access to the canyon rim above, rare in this place where canyon rim and canyon bottom were distinct worlds.

"They called it slickrock because metal horseshoes and wagon wheel rims couldn't get a grip on it. The rubber of our shoes finds it the best surface to walk on. It's quite the opposite of slick to us."

"That's interesting," I managed. Unlike the feeling in dreams of flying, the sharp cliff face below me seemed anxious to instruct me on the exact consequences of falling. I looked out over the canyon to hanging cliff dwellings on the opposite face. Solar arrays wavered in the hot air.

"Oh, Vikram, I'm so glad you're with me again." Her voice was joyful.

My foot slipped on a sand patch but I felt, instead, a different kind of vertigo. I glanced at her as she climbed ahead of me. Her shriveled legs were dressed in some sort of silk pants and she wore tiny red shoes. The

ancient Chinese had bound their women's feet to try to make them that small. It had been considered enormously attractive. I wondered if Aya had been reading her fashion history.

"I can't stay much longer," I said. "Tergenius needs me back in Cedar City. There's a lot to do. And if we pull this off, there'll be even more. Years of work. I'm looking forward to it. My ambitions. . . ." I didn't mention my women. I thought that was gracious of me. There had been many since Laurena, though I still thought of her often.

Aya was silent through my rambling speech, and for long after. We rose up to the rim. Ahead of us, resting in a declivity, was a shining silver hemisphere like a drop of mercury. Next to it, fluttering on a pole, was a complicated flag of stars and red-and-white stripes. I recognized it as the symbol of the old American Union of several centuries ago.

"Who are these plateau dwellers?" I asked. "I had no idea they were politically so unorthodox. This is going to be a ticklish negotiation."

Aya stood still next to me. "You are making a mistake, Vikram."

"This is all according to our plan." I deliberately misunderstood her.

Her machinery hummed as she moved past me. "God would allow you to climb infinitely high. He wants you to. You remain behind of your own choosing."

"Aya." She looked at me. She wanted me to love her the way she loved me, and I could not do it. With the best will in the world I could not. "I'll help you, but you have to go it alone."

"I already know that."

Three people stood by the shimmering mercury drop. They were ordinary people, but they could give us power. In return for Imperial resources and booster launches, they would provide Aya with the means to go into space. And Tergenius and I would climb the rungs of the Imperial hierarchy. It was a deal that would let all of us benefit.

Aya and I started down toward them. After I left the Escalante it would be ten years before I saw her again.

The Monastery of St. Sergius, 2182

I hear loud voices outside my window. I wait for them to subside, but they continue. I pick up my cane and struggle down the stairs. My left leg has healed unevenly and will hurt me for the rest of my life. Not for too much longer, in other words.

The robust plants of the garden have started to shrivel as summer ends, but are still vividly green. I was a long time in my sickbed. I wander among them—the sag-necked sunflowers, the gravid tomatoes, the entirely unauthorized morning glories clambering the pea trellises. I hear the voices, quieter now, but am suddenly confused, as if I am lost in some dark forest, though I can see the roofs of the monastery above me. "Don't you want to talk to an old friend?" The man's voice is calm but I can hear the hot breath pent up behind it.

"We have said all we need to." Brother Thomas's voice. With that as a beacon, I move toward it.

"I don't think so. I don't think so at all."

"Careful, Mark."

"Oh? Why should I be?"

I finally struggle out of the jungle. I've been within a few feet of them the entire time.

The cassocked Thomas stands facing a rangy man wearing a silly-looking brimmed hat pulled straight down on top of his head. I recognize him. He lives nearby. He has a large nose and jaw, and large, hairy hands as well, one of which holds a fistful of Thomas's cassock. Thomas's hands hang loosely down at his sides as he stares back.

Three other men, also locals, stand against the garden wall, chewing tobacco in unison. One of them hawks and spits, leaving a slimy trail on the brick wall. "Come on, Mark. We got things to do."

"You shut up, Feeney. We'll have time when I'm done with this."

Feeney shrugs and leans back against the wall. He doesn't seem relaxed. He looks away from the confrontation as if embarrassed by it.

"We've got things to talk about. We've got Janielle, don't we? Or rather—I have her." Thomas is expressionless but both I and the man named Mark can tell that he's scored a hit. Mark laughs. "Yeah, Thomas, that's the way it is. Right?" He pushes Thomas away.

"Is that what you came to tell me?" Thomas manages a tone of mild surprise.

"She's my *wife!*" Mark is angry, bouncing in a hunched position like some small predator on rodents. "I sleep with her every night. I have her whenever I want her. She's mine!"

"That's good." Thomas's eyes narrow until you can no longer see their innocent blue. "When will you have children, then?"

"You bastard!" Mark roars. "You goddam bastard." He swings his fist, a poorly aimed punch. Thomas doesn't try to avoid it. It grazes his jaw and he stumbles back a step. A trickle of blood appears on his lip.

I step out of the garden plants. "Enjoying yourself?" My tone is icy, somewhat bored. The voice of a powerful courtier, if the fool but had the wit to recognize it. Mark, for an instant, is stunned, and goggles at me.

For the first time Thomas looks agonized. "Please, Brother Vikram. Please. This is a private misunderstanding."

"Misunderstanding is it?" Mark takes a breath. "You crows are so goddam clever." Without even looking, he sweeps his foot by and knocks my cane out of my hand. I don't have time to recover and fall forward, bruising my palms.

"Hey!" Feeney says, but doesn't move.

"Shut up, Feeney, for God's sake—" Mark turns his head to yell at his friend. Thomas takes a short step forward and drives his fist into Mark's stomach. He doubles over. Thomas is ready to hit him again, but stops and drops his hands. I crawl the ground, seeking my cane.

With a choked breath, Mark straightens and hits Thomas in the face.

Thomas does not try to protect himself. Mad with rage, Mark flails at him. I can hear the meaty smack of fists hitting unprotected flesh. Thomas stands for as long as he is able, then falls to the ground. Mark starts to kick him.

Feeney and his companions are finally stimulated to action. After giving him time for a few hard kicks they grab Mark and pull him off. "You bastard!" Feeney says. "You said you wanted to talk to him."

"I'm talking! I'm talking!" Mark struggles with his friends for a moment, then allows himself to be hauled off. His foolish hat lies on the grass.

I crawl over to Thomas. He smiles at me with bloody lips and broken teeth. "Just an old friend," he mutters.

I have Thomas taken up to my quarters. The same doctor who saw to my wounds sees to his, and gives the same prescription: time.

"Who is Mark that we should be mindful of him?" I ask.

Thomas smiles with his ruined mouth. "Mark is a consequence of my decisions, Brother Vikram. Nothing more. That's what makes him so angry."

"That's wonderfully cryptic."

"Please. Whatever else he is, he is the past." He lies still on the bed, a cross clasped in his hands.

"Ah, the past. That doesn't make him irrelevant, clearly. Did the past break your teeth?"

Thomas doesn't see this as fit to answer. I sit back and look at him. He doesn't glory in his pain, like some annoyingly eager martyr, but accepts it. He's hung an icon of the Virgin over the bed. Her Child has His hand raised, not in the usual complex genuflection, but in a genuine infant's hand wave, fingers splayed and pulled way back.

So he is another who has had his life taken from him. I feel disappointment. It had begun to seem to me that Thomas was a man who did something more than simply make a virtue of necessity. Ah, well. We can, after all, learn much from lessons we did not sign up for.

I go to the window. A few clouds are in the sky but those are mostly to the east, where the moon is rising, so that by blocking its light they actually aid my vision.

"You can't see the asteroids with the naked eye," I say. "They're too small, too far away. But with this handy image multiplier . . ." I put my eyes to the optics. "Let me describe them to you."

Thomas makes a grunt which I choose to interpret as assent.

"There's Vesta . . . Ceres is on the other side of the sun. I remember Ceres like a nightmare. I can't show it to you. And . . . I keep track of these things, you know. It's important to maintain one's own history. No one else will. There's 944 Hidalgo. A real eccentric orbit, interesting specimen. Flora and Eunomia. And a tiny speck, almost invisible, 3920 Ngomo. Well, all right, Thomas, it is invisible, even to this telescope. It's a rock no bigger than this building. If it's the right rock at all." The flare

of a fusion rocket cuts across my field of view. For an instant I feel angry envy. I helped in the discovery of that damn drive. But look in vain. You won't see my name on it anywhere. Only hers. Aya Ngomo's. Only hers.

I look at Thomas. He isn't interested in my sad envies. He sleeps, the Virgin watching over him. I wish I had someone to watch over me.

There are monks out there now, meditating among the flying mountains. Each of those hermits is incredibly expensive. The Church funds them to its own greater glory. I didn't even try to apply. I could be out there now, meditating on Aya Ngomo's past and future.

Thomas moans and wakes up. His eyes are bright on me.

"Do you have any interest in hearing about the Asteroid Belt?" I'm proud of the question. Since when do garrulous old men ask if someone wants to hear one of their endless stories?

Thomas nods.

The Asteroid Belt, 2135

The Asteroid Belt isn't a place, it's a state of mind. Within it, it contains a volume larger than that of the sphere inside the orbit of Mars. Most pairs of points in the solar system are easier to get between than one end of the Belt and another.

I pushed my way off with slippered feet and drifted down the passageway. Two parts of the cobbled-together spacecraft shifted and groaned. I waited for a rupture to pull me screaming out into vacuum, then let out my breath and continued.

I was lost here in a way I had never felt, even when my parents dumped me at St. Thecla's like a spiritual foundling. I had spent the previous ten years traveling the Orthodox world as a powerful man, the *parakoimomenus* of Master Tergenius, newly named Dispenser of the Atlantic. And yet my life had obviously been compelled by forces beyond my understanding, for when Aya Ngomo's spacecraft left Earth orbit, I was aboard her. I still had no idea what use Aya had for me.

Perhaps she still loved me. If so, she had a saint's way of showing it. For example, she had not bothered to tell me our destination. I was left to perform course extrapolations on the computer, trying to second guess her.

I pulled myself into the next module, made out of an old Japanese space station.

"Aya?" I called. There was no answer. I made my way slowly through the dark, intestine kinks of the passage. There was a vague glow ahead. I rounded the last bend and found her.

Aya Ngomo hung in the central space like a gigantic fetus. Her spine was grotesquely curved. Some drug treatment had softened the bones of her skull, which now fit into an inductive control assembly that gave her direct feedback from the ship's functioning. Its supports had creased her skull. Her beautiful eyes were open but saw nothing. Her mind was

staring out through the forward image telescope, searching for her first sight of the asteroids. Her legs were mere nubbins and her arms were strapped into articulated machinery. Air compressor jets gleamed at the base of her spine, her shoulders, her hips.

As far as I was concerned she was barely human, more a part of the ship than anything else. She terrified me. I didn't know what she had become. Would theologians argue about the state of her soul? I thought that they should. By now she was something other than human. Or perhaps she had always been something different and it had taken this ship to show it to me.

There was a gush of air. Aya twisted and then drifted down another passageway, maneuvering deftly with her air jets, which were linked directly into her brain. They were products of her friends in Utah, one-of-a-kind devices. Here in space she was at home and I was the cripple, pulling myself painfully along.

A mass shifted somewhere and the reaction drive rumbled. I knew that Aya was monitoring it but I still flipped up a control panel and checked the flow diagrams. No need for us to explode in a hydrogen fireball simply because Aya was in some sort of mystic trance. Our fusion drive was an inefficient, clumsy piece of technology. Controlling it took sophisticated processing and constant monitoring. Even so, the hungry flames gradually eroded the inside of their containment vessel. At some point I would have to climb into a suit and climb down into the engine for repairs. I shoved the thought down. It terrified me.

An unexpected surge of acceleration made me drift against a wall. Aya was changing direction. Without consulting me, of course. I arrowed down the corridor and into the huge sphere that served as our main lifesystem. The air here was lush with the smell of plants. Aya floated in the center.

I could check some of what was being fed into her brain. Along with the visual information from the forward image telescopes, she received scintillation data, gamma-ray and x-ray imaging, gravitation anomaly detection. A magnetic monopole would have been instantly detectable to her. As a bright flash of light, the sound of a saxophone, the smell of burning lavender? I had no idea. Just as I had no idea what other things were being poured into her brain from the mysterious devices that filled our spaceship. I'd poked around, trying to figure out what all of them were, but I was not technically trained, and could not risk breaking any of them. For all I knew they sensed emanations from the Godhead and recorded the vibrations of the music of the spheres.

"Aya. What's going on? Where are we going?"

Her eyes drifted across me but it took a long time for them to see me. She blinked. Did she see me as some flaw in her imaging equipment, something to be corrected by replacing a circuit module?

"What is it, Vikram?" Her voice was weary.

"Oh, nothing. You changed course just now. I wondered if you had a reason for it or if it was just whim." I sounded whiny even to myself.

"I see where we are going. The Ancient Ones have shown me the way. Don't worry, Vikram. We will be there soon."

Those Ancient Ones again. Aya had never explained to me who they were supposed to be or what they had to do with her. As we traveled they became more prominent in her mind. I sometimes think they canonized a polytheist.

One night I awoke from a nightmare of being smothered by rotting bodies. Dig as I might, I couldn't get out from under them. Waking did not help me breathe. I panted. The air in the sleeping area was foul with ketones. Something was wrong with the lifesystem.

I unclipped myself from my sleeping harness. The lights came on. The air was clear. Had it been part of the dream? I took a deep breath and almost choked. The air was growing poisonous. No alarms had sounded, though they were programmed to scream at the slightest imbalance in the air mixture. I drifted to a diagnostic board. It blandly told me that everything was fine, that we had five nines of performance on everything. I cursed it as a lying bastard, a snare, and a delusion. I twisted in the air and sent my way down to the main lifesystem. Panels drifted open at my command. I looked in—and felt sick. The thing was hopelessly fouled. It must have been malfunctioning for weeks. Bacteria and fungus clogged the tubes. Algal growth had obscured much of the light focused and pumped in from the sun. Inherent circuit diagnostics showed that half the circuitry was dead. But the system diagnostics still told me everything was fine. So much for the clever engineers of the desert.

I arrowed my way to Aya's control station.

"Aya!" Panic tinged my voice though I tried to sound calmly competent. "Our lifesystem is malfunctioning. Soon it will cease to operate altogether."

"Yes, Vikram. That's true." I waited for her to say something else, but that was apparently it.

"We have to turn back. We can get to Ceres—"

"No."

"Don't be crazy, Aya. They have automated repair facilities there. We can't go on. We'll be dead in days."

"We're not turning back, Vikram. Is there anything else?"

Her eyes, though still open, were no longer looking at me. The stink of the bad air washed over me. I realized that Aya was completely crazy.

I turned from her, heart pounding. What could I do? There was no way to override her control of the ship. Not without killing her. I looked at her, floating placidly in her mystic trance. I could put my hands around her neck and squeeze . . . I could never pilot the ship on my own. It was part of *her*. I was just a parasite.

But in a few days we would both be dead and our ship would be a lifeless hulk hurtling through the Asteroid Belt. I went back down and stared at the lifesystem. Aya had played with the diagnostics. I was certain of it. Had she indeed gone insane?

There was only one thing left to do. The thought terrified me, so I

moved as quickly as I could, hoping to move faster than my doubts. I didn't even go back to my cabin but instead shot toward the access bay.

Hanging there among the exterior repair equipment was a dull cylinder only slightly larger than I was. This was our singleship: a tiny vessel capable of a journey of several million kilometers, if the pilot was crazy. Or desperate.

I started the launching cycle. For a moment I wondered if Aya had blocked this too, if she wished for both of us to die here of suffocation, but the singleship descended and opened its hatch for me. The diagnostics cheerily told me that it was completely operational. There was no way of checking whether this was a lie. I climbed into the ship, strapped it around myself, and felt the acceleration as it was spit out of the bay. Stars appeared around me. I input the coordinates for the Ceres repair post. The panel blinked acknowledgment and the ship accelerated.

We swept past the pile of orbital junk that was Aya's spaceship. Cylinders, spheres, long cones of drive pods. It showed no signs of life whatsoever. In a few moments it had vanished and I was alone among the stars.

It was the worst experience of my life. I had no idea of where I was and whether I would ever get anywhere. There was not enough room to move to scratch my shoulder, while all around me space was infinite, with no support for me. All I could do was lie there.

I think it was that trip that turned my hair white. If I'd remained on Earth like a sensible person I would still have that thick head of black, black hair, which everyone always thought was dyed.

And if I hadn't left Aya Ngomo's ship at that point, perhaps I would have witnessed one of the most important discoveries in human history. I would have died soon after seeing it, of course, but that might have been a small price to pay. It is so seldom that one finds a good end to anything.

The base at Ceres was automated and uninhabited, built to satisfy some mysterious Imperial purpose. The interior chambers were dark since the machinery in them didn't need light to operate. Using my Imperial authority I requisitioned the appropriate ecological and life-system modules. Silent devices moved to obey. As they did so, an electronic bell played the tune of the Lord's Prayer. The air was cold and thin.

I began to weep. What was I doing there? Why was I so near the edge of death? I had done nothing. If I was not both skilled and lucky I could be dead sometime in the next few days. It wasn't fair, not at all. It didn't make any sense. I had suffered so much. Would the future recognize me for the martyr that I was? Somehow I doubted it. Devices crawled like bugs over the singleship, attaching modules.

I had trouble finding Aya's ship when I returned. It was no longer near the coordinates where I had left it. If it hadn't been for its transponder I never would have found it among all the rocks. It floated quiescent, not near anything in particular.

The singleship clicked back into its berth. I reentered the ship. The

air was almost unbreatheably foul. I snapped the support gear together and headed for the main sphere.

Aya was there. And she had found what she was looking for.

She hung there in the center, a glittering blue-green jewel in her deformed hands. She was unconscious, almost dead. The jewel illuminated her peaceful face.

Alone, untrained, desperate, I went to work repairing the lifesystem. Glowing spots floated in front of my eyes. I clicked new modules in, checked and double checked them, scraped off corrosion, tested circuitry. At last, fresh air blew through the fetid stink. I sat back, not quite believing I had succeeded, and wiped the sweat from my forehead.

I went back up to Aya, to sink into the jewel. Chunks of carbonaceous chondrite, the rough egg in which the jewel had been encased, floated all around her. I cleaned it up before it destroyed any equipment.

On closer examination I saw that there were actually two different types of jewel, one more glorious than the other, though both shone like glowing planets. On my own, I named the lesser of the two lights lazarite—for, like Lazarus, we had been brought back from the dead. The greater I named ngomite. I knew that Aya Ngomo would try to give it another name. I also knew that she would never be able to make it stick.

I desperately wanted to name lazarite after myself—ostenite. I didn't dare. So near, there at my fingers, and I didn't dare. I would be forever hidden beneath that smelly old corpse, Lazarus. Look for me there, and you will find me. You will find my mark nowhere else.

The asteroids where she had found the jewels were already far away. The ship's computer had the locations wiped from its memory. I stared at it in betrayal. Ordered to forget, it had loyally done so. There was no way I could return to the spot the ngomite and lazarite had come from. I scanned through the asteroids, hoping for some trace, some hint. How did she find it? What was around it? A crystal city? Nothing but barren rock? A massive multi-armed idol? I would never know.

While Aya slept, I investigated her discoveries. Ngomite had a complex crystal structure of high-atomic-number Island of Stability elements. I could already tell that its complexity was far greater than I could perceive. It looked almost planned, not like a natural substance at all. But that was ridiculous. The Ancient Ones were a myth that Aya had dreamed up to justify this journey.

Aya finally woke up, eyes glowing. Despite all my questions, she wouldn't breathe a word of where she had found her jewel and what it meant. She turned our path back inward toward Earth.

"Oh, Vikram. It was glorious. Did you ever think I would succeed?"

"I never had any doubt."

She laughed. Not a joyful laugh. It was almost contemptuous. "Of course not. But you never had any understanding either. Never. But it's not too late. Do you think you will ever understand what you should have been?"

"I hope so."

"Forgive me, Vikram." She took my hand.

"For what you have felt? There is no forgiveness necessary." I was magnanimous.

"Not that at all." Her voice was sharp. "For having accepted you as you are. I should never have done that."

She had found that which she sought. It was her jewel, the thing that she believed made her complete. Would her legs grow back, her spine straighten? She had long ago given up on that image of her salvation. Her salvation lay within her soul, a spot where I could never trespass.

The Monastery of St. Sergius, 2182

I hurry down the path as quickly as I am able, brushing loose leaves with my cane. The apples have long since been harvested from the bare branches that overhang me.

The note is in a woman's hand, delivered by a wool-hatted country woman who did not stay for a reply. I've examined the note dozens of times. Somehow even the curves of the vowels seem sensual to me. Stay me with flagons, comfort me with apples . . . I can laugh at myself even as I hurry, as impatient as a lover heading to a tryst.

"I have waited so long for news of him," it says. "This was not what I wanted. You are his friend. Tell me how Thomas lives his life." It needs no signature.

She waits on a bench under a tree. For a second, from the reddish dark hair, I think it is Laurena. Laurena, whose sharp scent is lately on my pillow when I awaken from nightmares.

She stands. It is not Laurena, but quite a different woman. She has the face that innocence leaves when it vanishes precipitately. Once round and cheerful, surrounded by masses of exuberant curls, it now shows the marks of care, like gullies on an untended field. Her hair is pulled back savagely, as if she is punishing it for her bad decisions. Her eyes are as blue as Thomas's.

"Janielle," I say. She waits for more. "He is well."

"Well? I heard that Mark beat him. Beat him to shit."

I couldn't tell if she was angry at her husband or proud of him. "As well as can be expected. He will heal. He will continue to do God's work." A black-cassocked crow with an Orthodox cross on his chest, I am suddenly a defender of the faith against this tired woman.

Her shoulders slump. "He will. He will. Oh, damn him to hell, he will. My Thomas."

"Your Thomas?" I am desperately curious about the story.

"Oh yes. Does he ever talk about me?"

"Often."

"You're a liar."

I pause, considering. "He told me you made love behind Crofter's silos."

Instead of making her angry, this melts her. "Yes. He caught a cold from the wet ground and stayed in bed. My mother saw my knees were wet. I told her I had been fishing. No fish, though. I broke my line."

There is a rustle in the orchard. She starts, prey, expecting her husband to stride across the fields and pick her up in his hairy hand. She smiles at her own fear and removes two clips, loosening her hair. It's been a long time since a woman loosed her hair before me.

"Why did you leave him then? Was it for Mark?" I imagine her tiring of the gentle Thomas, turning to the crude and vital Mark as a protection in this increasingly harsh world. Unattached soldiers move about the countryside, burning and looting. The Orthodox Empire is at last collapsing. It is no age for gentleness, and women are, if nothing else, practical creatures.

I don't expect her laugh. "Leave him? Is that what he told you?"

"He hasn't told me much." I may as well admit it.

"No, he hasn't, if you believe that." She takes a breath. "We loved each other. He loved me as much as I loved him. We were going to be married. Have . . . children." She turns from me.

"What happened?"

"God happened." She speaks the word viciously—the name of a rival. "He thought and thought, and decided that his life was meant to serve the Lord. He'd always been a little churchy. That was all right. But he left me. Walked out of my life and into your monastery. That's when his life began and mine ended."

"And you married Mark for revenge." Just like a woman to punish someone else by punishing herself.

"I suppose." Her own past motivations don't interest her. "It's not too bad. But I'll never give him children." Her voice is suddenly hard. "Never!"

"Thomas will do well." My voice is dreamy. "He has a vocation. He serves the Lord, unlike many of the rest of us. I don't think I will tell him I saw you."

"It's better that way. Thank you for your time, Brother Vikram." She turns and walks quickly away. She wears a shawl, like a woman already growing old. But she bounces her auburn hair once, a brief flash of the old flirt, and is around a corner and gone.

I turn back to the monastery and draw in a breath. Thomas stands beneath the old apple tree. Tears run down his cheeks.

"You should have come to talk with her," I say. "It would have made her happy."

He shakes his head. "That's impossible. I've made my choice; Brother Vikram." He doesn't try to wipe his tears. "I still love her."

So all along, as I've been explicating my wonderful life to this poor young man, who respects me for all I have lost, he has made a sacrifice that I could never imagine. Love! How could he ever give it up?

"Help me, Thomas. My bones are tired."

He puts a strong arm under my shoulder and leads me back to the monastery.

"I'm leaving, Thomas. When we get back to St. Sergius's I am requesting transfer to the Skete of St. Nil Sorsky. You know it? It's in the foothills of the Poconos. A howling wilderness. A tiny place with only two other monks and one lay brother."

Thomas doesn't seem surprised. "Do you have a spiritual reason for the change, Brother Vikram?"

"Would you believe me if I said the bustle and pomp of St. Sergius's were beginning to offend me? Of course not. Perhaps it's because you've taught me something."

"And what have I taught you?"

"How to face the past and understand it. I don't think I've been entirely clear to you. But that's because it took me so long to understand it myself."

Earth Orbit, 2147

Aya Ngomo tricked us all. I had always underestimated her deviousness: the vulpine cleverness of true holiness, which always knows what is necessary.

It took several years to build the ship incorporating the new fusion drive based on the minerals she had found. Both an act of religious devotion and a technological proof of concept, it was a dominating, high-visibility act. Tergenius took charge and rose ever upward. I rose with him. Somehow, I had never managed to disentangle myself from Tergenius. That tedious, bureaucratic man, his silly droopy moustache now white, seemed able to dance through the maze of Orthodox Imperial administration in a way that I, far cleverer and better liked, never could. So I held onto his belt and was pulled along behind him.

Aya Ngomo retired to St. Catherine's in the Sinai. A laboratory was built for her there, experts sent to the desert to do her bidding. There she assessed the meaning of ngomite. And that was indeed what it was called. Try as she might, her name, xenite, was never accepted by anyone. Eventually she gave up trying to change it.

Besides being beautiful, ngomite provided an easy way to control and manage a fusion flame, almost as if its crystal structure was intended for such a use. No one really cared to speculate. Orthodox theology had no place for Aya's Ancient Ones. Once ngomite's structure was analyzed, it proved a remarkably useful substance. Other deposits were eventually found in the Asteroid Belt, though no one ever came across the location of her original strike. That was a mystery that she still keeps to this day. But ngomite was a godsend.

This new spacecraft was nothing like the old pile of junk that had hauled us out to the Belt. This was a sleek, beautiful creation. As a

signal personal honor, Aya Ngomo herself was the pilot on the first full test of an ngomite-controlled fusion spaceship.

I talked to her one last time before her test flight. It was in a tiny room in Boston, not far from the Orthodox Cathedral I had once pretended I had seen.

I was by this time a Full Councillor. For the past five years I had been Governor of Ontario. When I came I arrived with proper pomp, escorted by ceremonial horse troops from the north, in dark red uniforms. We made quite a brave show on Boylston Street. I had brought my favorite mistress, Tanya, with me, and installed her in an apartment on Beacon Hill. I had the world, such as we knew it in those days, at my feet.

It was with trepidation that I entered the old building, leaving my escort in the street, and was led up to Aya Ngomo.

The room was completely dark. I stumbled in, almost tripping over power conduits. "Aya! Are you in here?"

A tiny light came on, illuminating her face. She shouldn't have been on Earth at all. She seemed barely human, tied intimately with her devices. Her eyes were still the same though, bright and intelligent.

"Ah, Vikram. Come to say goodbye?" I should have guessed then, I suppose.

"Just to see you."

"Thank you." She looked at me. "You've made a success of yourself. You've come quite a ways from St. Thecla's."

I laughed. "That's true enough. Yes, I do well."

"Is it what you wanted?"

"Do you want me to tell you that I have found wealth and earthly power worthless? Not at all." I spoke resonantly. "It's just what I wanted."

She reached out her hand and took mine. "I tried to tell you when we were in the Asteroid Belt. I'm sorry for what I've done to you, Vikram."

"What you've done? I don't understand."

"For the greater good. That's the phrase, isn't it? I sacrificed you for the greater good. *My* greater good. I won't change it, understand, not for anything, but I want you to know that I don't hold sacrifice to be meaningless."

"Aya, you're not making any sense at all." I was getting irritated.

"You could have been something important to me. Because you refused, I allowed, no I encouraged, you to become something quite else. Because I needed that. I needed it. And it's not what you should be."

I was a ruler known for my equable disposition. I took a breath and smiled at her. "No need to apologize. No need at all."

She closed her eyes and the room grew dark again. "I hope you will understand later. And forgive me."

A few months later we all gathered in orbit, kings above the Earth. Our power and glory was incredible. The Patriarch of Moscow himself blessed Aya's voyage. It was the culmination of all of our efforts.

And on 13 April 2146 Aya Ngomo said, "I'm sorry, but I have to go home," and blasted off for the Galactic North at an acceleration of three

gravities. There was no way anyone could stop her. She is going that way yet. I can see her up there.

Half a year later, our careers in shambles, I met Tergenius, no longer Dispenser or Master, but simple Donald Tergenius, at his country home in the Berkshires of Massachusetts. He had been forcibly rusticated. He would not live more than another year there, unable to survive without the breath of power.

"The woman was clever," he said, admiration in his voice. "From day one she was clever." He gave me a sideward glance and, with shaking hand, topped off my glass of bourbon. I favored that drink since I could taste Laurena, and victory, in it. "She knew she could turn my eye on you."

"Aya? How?" I was a trifly queasy. We'd been sitting in Tergenius's stone-flagged living room all afternoon, and he had not offered me so much as a single cracker.

He pulled at his moustache, a gesture he was to keep to the end. "Don't you remember? I met you both the same day. Back when I ran Patriarch Simon's secretariat. Aya recognized that I wanted to get out, make my career." He belched. The man had lost a lot of dignity over the years. "She pointed out your family connections. After your expulsion from St. Thecla's I called on your Uncle Cosmas. A most useful man."

I hadn't thought about him in years. "He was my favorite."

"You were his as well. He pulled some strings. I got my position in Utah. And I got you as my assistant." He looked dolefully at me. "I've never regretted it. Even with everything, I still don't."

I didn't want him to get maudlin. "Why Utah?" I asked, more or less at random.

"That's the best thing of all. Aya suggested it. Pointed out what a career an ambitious man could make, there on the periphery, far from supervision. Build a base of power there, she said, and you could climb as far as you wanted. I knew immediately that she was right." He tossed back an entire glass. "Smart girl. Real smart."

My head reeled, not entirely from the alcohol. Twice she had offered me spiritual equality in her quest—spiritual equality with St. Aya Ngomo. Once at St. Thecla's, once in the canyons of Utah. Twice I had rejected her. So she had used me how she could, as a frugal mason uses an irregular bit of rock. She had hauled me out to Utah to make contact with the plateau technologists, then dragged me to the Belt to find ngomite. She had used me to build her spaceship. And by the way, as a side issue, I had become a Orthodox Councillor and Governor of Ontario, with an entourage and three mistresses.

She had apologized to me. Not for the fall that came after her disappearance. That was incidental. But for having allowed me to become what I was: a man whose uses were at an end.

I stumbled out into Tergenius's rank and untended garden and vomited.

Thomas has accompanied me to this miserable place, packing my telescope and then unpacking it again. Thomas is a holy man, who has given up what he loved most for God. Thomas, who, despite the warmth of his spirit, destroyed the woman who loved him in pursuit of his mission. It is in him that I see the true force of the Lord. Perhaps someday he too will be a saint.

Aya Ngomo used me, and I must glory in it. I have achieved earthly greatness and now, here, perhaps I will achieve spiritual greatness as well. She did the only thing she could do. I forgive her, though she will never know that I have.

I don't think I will continue to live in these ruined barns for long with my unspeaking comrades. Soon enough I will retire to a cave somewhere in the Poconos, a hermit at long last. The entire Earth is being sucked into a swirling darkness but I at least have my light. I look up at her. Her life will be infinite.

And mine? I shake in a palsy and tell myself it is just a chill. I will end my days staring through a telescope, my eyes drying out, living on baskets of food donated by the local faithful. One day they will arrive and find the previous basket uneaten. Glad at this final lifting of an unasked-for responsibility, they will go their own way in this new world.

I look up at the flame of her ship, hold in my breath, and feel myself fly. ●

INNER SPACE PORTFOLIO: USING THE SCANNING ELECTRON MICROSCOPE

in one grainy photomicrograph
the Groucho Marx head of
a scale-covered mosquito
confetti popping from her eyes

in the magnified moth's eye
composite lenses duly aligned
oranges in greengrocer rows

mournful dog tick eye
above a proboscis knobby
as a rock-boring drill bit

antennae sockets make fake eyes
in SEM close-ups of army ants
Bourbon Street jazz cats
rapping about the gone world

—Robert Frazier

ON BOOKS

by Baird Searles

Infinite Alternate Worlds

Down the Bright Way

By Robert Reed

Bantam, \$4.50 (paper)

The background and the situation in Robert Reed's *Down the Bright Way* are so intriguingly conceived that one feels like a cad for making negative noises, so let's save the grumps for the end.

The background is an idea that's hardly new, that of the alternate Earth, but I haven't run into its use on this cosmic a scale for some time. Here we have an infinity (probably) of alternate earths—one leading to another. There are deserted Earths and barren Earths and Earths with any number of variations on the human species and its cultures, from supertechnological to primitive.

The backbone of the novel (as it were) is that there is a string connecting these endless beads of Earths. It is called "the Bright Way"; can be traveled in vehicles (sort of—they're called "portals"); and it is artificial, an artifact constructed four-and-a-half billion years ago and abandoned by a long-gone race. A million years ago (we're not playing small time numbers here), the Bright Way was discovered by a superintelligent, su-

perpeaceful species of humanity, who called themselves "the Founders," not because they "founded" (in any sense, including the ungrammatical) the Bright (as it's called for short), but from a creation legend of their culture. But they call those who created the Bright the "Makers" and have taken it on themselves, as a racial imperative, to travel the Bright (in both directions) and find the Makers, instructing and involving all the alternate races they come across along the way. Some of these join the onward pushing Founders, including more primitive races with artificially enhanced intelligence—these are "the cousins," and the entire group is collectively known as the Wanderers.

As you can see, this is no small stage on which Reed has set his drama. And his drama is a good one. Jy is the original Founder, the woman who persuaded her race to use the Bright to search for the Makers, whom she is convinced lie at one end or the other of the Bright. The Founders split in two—Jy leads one group in one direction up (down?) the Bright, her best and most brilliant pupil, Moliaak, leads the other Wanderers

down (up?) the other way. Communication between the two groups is painfully portaled from one end of the "line" to the other. The story unfolds nearly a million years later. Jy is still alive (the Founders have perfected near physical immortality and mental immortality by means of "hard memory"—computer users read a comparison to hard disc, others take it on faith, I guess). Jy's group has traveled five-hundred-and-some odd thousand alternate Earths; that number now lies between her and her group of Wanderers and the Founder's Earth, now populated only by the Archives, the hard-memories of the Founder's defunct population. (You can't call them the dead.) Fifteen months ago, Jy's wanderers turned up on what's probably our Earth.

Suddenly Moliak appears at Jy's end of the line, literally hijacks a portal (which has never been done before), and kidnaps her, several of her entourage, and two humans, one a young man named Kyle who has been masquerading as a Wanderer and the human girl he has taken in by this. The question is why and where is Moliak taking them, and it would be cheating to give the answers away. I can only say that his group of Wanderers have run into an alternate humanity—the "Unfounders"—so loathsome as to make the races I cited some issues back in a review of Sherri Tepper's *Raising the Stones* as the most unpleasant I've ever run into look like pussycats.

I don't want to belabor where I think the novel goes wrong, but it's simply *because* the ideas are so good that I am unhappy about the way Reed has chosen to tell his story, which is choppily to the extreme. He switches from the point of view of one of the major characters (Jy, Moliak, his henchman Cotton, and the others involved) to another, short section by short section, but doesn't do so strongly enough to make a real point (alternative viewpoints or whatever). Obviously, a writer can tell a story any way he pleases—one can only wonder why Reed chose to tell the very good story he has to tell in such an awkward way.

Several Alternate Words

The Schizogenic Man

By Raymond Harris

Ace, \$3.95 (paper)

More alternate worlds turn up in Raymond Harris's *The Schizogenic Man*, but not on so cosmic a scale and not quite so clearly laid out.

Harris displays a double talent in *The Schizogenic Man*, since half the story is set in a near future, the other half in a period of ancient history (with variations). The near future is an unpleasant one with the world split into peculiar new permutations—Texas is independent, and there are new nations with names such as Tropicana. Most of the countries appear to be dictatorships of one kind or another, but Harris's hero, John Heron, lives in New City (which could probably be a future New

York, judging by various interior geographic clues, though never specified as such) which is a "haven against the mad mediocrity of the twenty-first century . . . a refuge for the oddballs, the perverts, the dope smugglers and the nicotine addicts . . ." It's a pretty strange place, ruled by a junta and a computer called MEQMAT, in which the population is divided into Pros and Players. The Pros, one gathers, have more or less steady jobs; the Players are subject to a yearly Lottery which decides their jobs and their residences. Chinese, Spanish, and English are the major languages, and the state was communist until five years ago—people are still addressed as "citizen."

The two forbidden activities are politics and religion. At an underground Christmas party, Heron meets Stella, a fascinating woman who comes on as a Player, but is really a Pro for an experimental government program, in which she offers John a job. It involves traveling backward in time to inhabit the bodies of persons of various historical eras.

In Alexandria, in that fascinating period after Octavian has conquered Antony and Cleopatra at Actium, but has not as yet conquered Egypt, Heron finds himself first in the body of the tutor of Kaisarion (son of Caesar and Cleopatra), and, after a return to the future, then as Cleopatra's male secretary. Stella, in the meantime, turns up as the Queen's hand-

maiden, Charmion, and then as Cleopatra herself. It's quite a time in Egypt, since the Court and the royal lovers know their days are probably numbered, and profligacy is the order of the day. Heron and Stella, in various ways, attempt to change the future, by spiriting Kaisarion to safety (historically he was killed by Octavian) and then by murdering Octavian himself (which meant no Caesar Augustus in history). Each time Heron returns to the future, there are strange changes—he has made alternate worlds.

Or has he? Harris has done a fine job of extrapolating an original future, and an equally fine job of writing about the past (as a closet historical novel fan, particularly interested in the first century B.C., I can say I've seldom found a better evocation of Ptolemaic Egypt). However, the interface between the two—exactly what's happening and why—could be a lot clearer, and the reader finds the device which spins the plot—Heron's fascination with Stella—a little hard to comprehend on the human level.

An Alternate World

The Shadow Gate

By Margaret Ball

Baen, \$4.95 (paper)

There's only one alternate world in Margaret Ball's *The Shadow Gate*, but it's a goody, unusual in being an alternate *fantasy* world, elves and all, but still linked historically to ours. The current ruler

of Elvenkind is Alianora, Countess of Poitiers, Duchess of Aquitaine, Regent of the Garronais and Queen of the Middle Realm. Centuries old, she is noted for her particular eccentricity of marrying mortals, particularly kings; as an Elvenlord rather cattily put it, "Louis was bad enough, but Henry was a disaster." The last had been King of England, by whom she had had several halfling sons. If you happen to be a history buff, you'll not be surprised to learn that she is usually known by the shorter title of Alianora d'Aquitaine.

Alianora's world is not doing very well. Still medieval, the Elven Lords yet rule much of Brittany and the rest of nearer Europe, and maintain a scholarly tradition at Ys, but are failing. They have reached an uneasy détente with the Christian Church, which has ruled that they do not have souls. However, a recent (relatively—a few hundred years back) development has been the appearance of a Christian order founded by a Saint Durand who hated all beings that did not acknowledge the Church; his chief enmity has been aimed at Elfhome, execrating the elves and getting their lands into the hands of the Order whenever possible.

Elvenkind has been having increasing problems fighting the order of Saint Durand, mostly due to "the Catastrophe" that occurred centuries ago. The Stones of Jura were once the seat of all power in Elfhome. Lord Joffroi of Brittany thought to take their power in the

resulting dustup with the then Elf-Queen, the Lady Sybille, the two antagonists died and the power of the stones disappeared.

Alianora thinks she has discovered that Sybille did *not* die, but was translated into another world; the existence of such the Elves once knew about, even visited by way of magic-wrought Gates, long ago. Alianora has traced Sybille to a dreadful world of omnipresent iron demons, and manages to create a Gate that will draw her back.

Unfortunately, the Durandines alone of the Christian orders are exempted from the prohibition against magecraft; they know what's going on and set their own watch on the Gate.

Well, guess which world Sybille has supposedly been drawn to? And what is the Gate on our side? A drawing by Kay Nielsen in a particular first edition. (You don't know Kay Nielsen? Tch. Tch.) And this particular first edition is housed in the collection of the New Age Psychic Research Center in Austin, Texas, which is also having its problems, since the dear lady who runs it knows and cares little about such things as the IRS and unscrupulous real estate developers. She does have her invaluable secretary, Lisa, who came in for counselling and stayed to help, and recently her niece Judith has also arrived to straighten out the mess. Both young women, as well as others, find themselves suddenly drawn to the Nielsen drawing.

What follows is an intricate, amusing and exciting story back and forthing between Elven Brittany and Texas, with wonderfully (and rightfully) arrogant elves, the Wild Hunt bursting forth in Brittany during the day, and more than a few surprises, since the story of the stones of Jura has not come down in history exactly accurately. Just where (and who) is the Lady Sybille? This is a highly recommended fantasy.

Alternate Athletics

Achilles' Choice

By Larry Niven and Stephen Barnes
Tor, \$15.95

The world of the late twenty-first century in Larry Niven and Stephen Barnes' *Achilles' Choice* is, for a change, not a dystopia—can this be a trend, for heaven's sake! It is maybe the second or third book that's come along in as many months with a future that's not devoted to designer drugs or gun totin' survivalists. In any case, there are still some national states left (the U.S. being one), but most of humanity is governed by a Corporate Council. And the members of the Council are for the most part winners of the periodic Olympiads, which now incorporate science and art as well as sports. (Our heroine is competing in fell running, judo, chaos theory, and fractals, while her roommate is going for the gold in molecular biology, the balance beam, and chess.)

However, here's the catch. At this point, steroids are mere baby

food, since most contenders have themselves physically and mentally "Boosted": a discus thrower has his spine prosthetically restructured; a runner uses synthetic hemoglobin and has artificial knee joints implanted; as for the weight lifters, don't even ask....

Our heroine Jillian (judo, fractals, et al.) is, of course, going for gold, and as of her arrival at the North American corporate and national training camp for the Eleventh Olympiad (nowhere does it say eleventh from *what*, so far as I could tell) has yet to decide as to whether to be Boosted or not. The hitch (you knew there was a hitch, didn't you) is that Boosting is in reality the creation of a "disease" that forces the body and mind to function at greater than ordinary levels; the price is death usually within eight years or so. The winners, however, are "Linked" to satellite override programs to run their deteriorating bodies.

Jillian has a crush on the last Olympiad's Golden Boy (gymnastics, aeronautics); he visits the camp and she spies on his outdoor workout. Suddenly he crashes; his satellite "Link" has been broken, and Jillian realizes there's dirty work afoot. The more she tries to find out (through her alter ego computer personality, Beverly), the deeper in she gets, as the reader is made aware that she's being watched by an all-powerful and perhaps immortal Council member who calls himself Saturn. Intrigues and dangers....

This is a short novel, perhaps too short for the wealth of material it implies. Sports buffs will be fascinated by the reactionary view of artificial athletic enhancement and the methods thereof; it just seems that a bountiful background has been set up for too thin a story.

(Achilles, by the way, was given this choice by the Gods: to live a short, memorable life or a long dull one.)

Alternate Progeny

Man After Man

By Dougal Dixon

St. Martin's, \$19.95

Dougal Dixon has done it again. His first book, *After Man*, was an illustrated "natural history" of the animals that would evolve on Earth after man had disappeared. It was an extrapolative tour de force, not just because of the inventiveness of its myriad creations but because of the sheer brilliance of its handsome and handsomely presented illustrations. His second book, *The New Dinosaurs*, speculated on saurian species that would have filled ecological niches now filled by mammals and birds.

His new book, *Man After Man*, takes us into the future to look at the myriad upcoming species and descendants of mankind, both genetically engineered and naturally evolved after civilization fails. Since the pictures (by Philip Hood) are integral, I can really only tantalize you by citing such of our fascinating descendants as the vacumorph (designed to live in the

vacuum of space) of two hundred years hence to the hivers of two million years hence. This is another Dixon book to delight the mind and the eye.

Shoptalk

Reprints etc. . . . To which work the title of the original great space opera goes is a tossup between Jack Williamson's *The Legion of Space* (1934) and E.E. Smith's "Lensman" series, both were, of course, originally published in magazines in the days before there were SF books. The ambiguity comes from the status of Smith's *Triplanetary*, also 1934 but not originally part of the Lensman cycle, but who cares, they're all glorious fun. *The Legion of Space* is back in print, complete with its touching introduction (from what edition I'm not sure), which begins "To all the readers and the writers of that new literature called science fiction who find mystery, wonder, and high adventure in the expanding universe of knowledge . . ." Williamson, of course, is still writing. (Collier, \$4.95, paper) . . . And, from a bit later, but not that much, *Fear*, a novel by L. Ron Hubbard in his pre-controversial days when he was a staple contributor to the Golden Age magazines (Bridge, \$16.95).

Books to be considered for review in this column should be submitted to Baird Searles, 1499 boul. de Maisonneuve Est, Montreal, PQ, H2L 2B2, CANADA. ●

NEXT ISSUE

Next month's lead story is a big new novella by new writer **Kristine Kathryn Rusch**, winner of the John W. Campbell Award and the World Fantasy Award, former editor of *Pulphouse*, and new editor of one of our oldest and most respected competitors. In the vivid and fascinating "The Gallery of His Dreams," Rusch takes us back to the turbulent and dangerous days of the American Civil War to meet one of its most famous chroniclers, pioneer photographer Mathew Brady—and then plunges Brady ahead into a hostile and incomprehensible future of aching strangeness, a future where Brady faces his most bizarre and difficult assignment.... Don't miss this one.

ALSO IN SEPTEMBER: Hugo-winner **Mike Resnick** takes us "Over There" to the trenches and muddy battlefields of World War I for a powerful Alternate Worlds story that pits the indomitable Teddy Roosevelt against a challenge that may be too big even for him to handle; hot new Australian writer **Greg Egan** returns with an unsettling a love story as you'll ever see anywhere, in the chilling story of what "Fidelity" might be like in the not-too-distant future; Campbell Award-winner **Judith Moffett** also takes us back to Civil War days, but to an alternate Civil War that never was, for the absorbing and compassionate story of the hazardous life and peculiar destiny of a "Chickasaw Slave"; **Bernard Deitchman** makes a stunning *IASfm* debut with a taut high-tech thriller that pits the crew of a SAC bomber plane against a Mystery from beyond time, with the fate of the world itself hanging in the balance, in the harrowing "The Last Dance"; new writer **Mary Rosenblum** returns with another of her popular Drylands stories, taking us to a near-future American West where the water has finally and irrevocably run out for a compelling study of ordinary people caught between the grinding edges of hope and desperation, in the poignant story of "The Bee Man"; and veteran writer **Kit Reed** returns to these pages after a very long absence—her last story here was all the way back in 1984—to spin the wry, fast, and funny story of a man whose electronic servant is perhaps a bit too devoted to him, in the blackly humorous "River." Plus an array of columns and features. Look for our September issue on sale on your newsstands on July 23, 1991.

COMING SOON: major new novellas by **Connie Willis**, **Isaac Asimov**, **R. Garcia y Robertson**, **Ian R. MacLeod**, and **Maureen McHugh**, plus much, much more!

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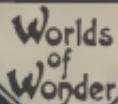
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by Erwin S. Strauss

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JUNE 1991

28-30—MidWestCon. For info., write: 6B2B Alpine Ave., #4, Cincinnati OH 45236. Or call (513) 984-1447. (10 AM to 10 PM, not collect). Con will be held in: Cincinnati OH (if city omitted, same as in address). Guests include: none set. The original relaxacon, where old-timers reminisce at the pool.

28-30—PhringeCon. (602) 247-1525. Sheraton, Phoenix AZ. Media focus but by "regular" fan group.

28-30—ConCerto. Cherry Hill (NJ) Inn. SF folksinging. Following up 1990's successful debut.

JULY 1991

4-7—WesterCon. Gage Residence, U. of BC, Vancouver BC. W. Gibson. The big annual Western con.

5-7—Ad Astra. Howard Johnson Airport, Toronto ON. Hambly, Effinger, Eggleton, Kay, R. M. Allen.

5-7—CastleCon. (301) 292-4231. Holiday Inn Crowne Plaza, Crystal City VA (Washington DC subway).

5-7—Congregate, % Ayres, 11B Cobden Ave., Peterborough England. Moat House Hotel. Theme: Heroes.

12-14—ReaderCon, Box 613B, Boston MA 02209. (617) 576-0415. T. M. Disch. For the written word.

12-14—II-Khan, 2926 Valerie Circle, Colorado Springs CO 80917. (719) 597-5259. G. R. Dickson.

12-14—Rhino, % Belsky, 693 Huron #2, London ON N5Y 4K2. (519) 663-1098. Snodgrass.

12-14—Archon, Box 50125, Clayton MO 63105. (314) 421-2B60. St. Louis MO. W. Shetterly, E. Bull.

12-14—DragonCon, Box 47696, Atlanta GA 30362. (404) 925-2B13/921-7148. P. J. Farmer, Anthony.

19-21—ConVersion, Box 108B, Stn. M, Calgary AB T2P 2K9. (403) 229-3066. Canadian national con.

19-21—LibertyCon, Box 695, Hixson TN 37343. (615) B42-4363. Hogan, Cherry, deCamp, the Webbs.

20-21—Campbell Conference, % Gunn, Eng. Dept., U. of Kansas, Lawrence KS 66045. Pohl, Academic.

26-28—Okon, Box 4229, Tulsa OK 74159. (918) 622-2225. Jo Clayton, Lucy Synk, G. Alec Effinger.

AUGUST 1991

29-Sep. 2—ChiCon V, Box A3120, Chicago IL 60690. WorldCon. Clement, Powers. \$125 to 7/15/91.

SEPTEMBER 1992

3-7—MagiCon, Box 621992, Orlando FL 32862. (407) B59-8421. The '92 World Con. \$85 to 9/30/91.

SEPTEMBER 1993

2-6—ConFrancisco, Box 22097, San Francisco CA 94122. (916) 349-1670. WorldCon '93. \$70 to 9/30/91.

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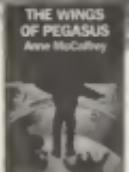
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